Lectures
ON
FIBROID DEGENERATION AND ALLIED LESIONS OF THE HEART, AND THEIR ASSOCIATION WITH DISEASE OF THE CORONARY ARTERIES.

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LECTURE II.

DISTRIBUTION OF THE CORONARY ARTERIES OF THE HEART.

As has been gathered from the foregoing considerations, the blood supply of the heart is intimately associated with the causation of the lesions at present under review, and, therefore, before going further it will be necessary briefly to refer to the different views which have been held as to the distribution and anastomosis of the cardiac arteries. Very great differences of opinion still exist as to whether the coronary arteries anastomose or not—some observers holding that the anastomosis between the two vessels is quite abundant and free, others maintaining that it is exceedingly limited or even absent altogether. Amongst the former are to be placed the names of Norman Chevers, Wickham Legg, Samuel West, Krause, and Langer; and amongst the latter those of Hyrtl, Cohnheim, and Joseph Swan. Chevers founds his opinion on a water injection; I think that this is clearly insufficient, and that no reliable conclusion can be drawn from it.[1] Wickham Legg says: "A number of human hearts were collected, and the arteries injected with a blue-coloured size. Nothing was easier than to fill one artery by injecting the other, and communicating branches could be seen passing over the apex of the ventricles....."[2] Samuel West says: "The fact, then, of the very free and complete anastomosis of the coronary arteries is established."[3] It will be admitted that these opinions are most authoritative, and contain the certain convictions of the writers. On the other side of the question, however, the following sentences must be quoted. Joseph Swan says: "Although the coronary arteries communicate at the ring at the base of the heart and at the apex, the communication is not very free; but each can do little more than supply its respective region."[4] Hyrtl seems to have modified his original view that the arteries do not anastomose, and he now admits a capillary anastomosis. Cohnheim held that the arteries were end-arteries, and, with his usual minute care and scrupulous accuracy, has shown that, before coming to any conclusion as to the result of injection experiments, we must take carefully into account the character of the injection fluid used. He found that if a thin fluid, capable of passing easily through the capillaries, were employed, it returned by the opposite artery; but if a thicker fluid, incapable of so passing, were used, it did not.[5] It should be recollected, however, that Cohnheim's experiments were made on dogs, and that, in one of the many canine hearts he examined, he did find a small anastomosing branch. It will be seen, then, that on this question we have on each side a pretty equally balanced consensus of opinion; and, not so much with the hope of finally settling the question as with the object of possibly finding out which side was most likely to be right, I undertook a few injection experiments of the human heart, of which the following is an account. I made in all three careful arterial injections of healthy human hearts, after which they were examined and dissected, and the conditions found were noted at length at the time of experiment or of examination.

Injection 1.—This experiment was carried out on Jan. 17th, 1885; the fluid used was the ordinary histological carmine gelatine mixture, the continuous pressure apparatus being employed, and a maximum pressure of from eight to nine centimetres of mercury was used. The vessels before injection were washed out with salt solution; the mass was thrown into the left coronary artery, and after a short time it flowed from the right coronary in an oozing fashion. The tissue of the left ventricle and auricle was fully injected, but that of the septum and right side scarcely at all. By tracing out some of the branches it became obvious that the main point of communication between the two vessels had been in the apical region.

Injection 2.—In this case an exceedingly careful anatomical injection of both arteries was made, in order that by subsequent examination and dissection any anastomosing branches might be discovered. In this and the succeeding injection, I had the valuable assistance of my friend Mr. A. E. Maylard, B.S. Lond., formerly of Guy's Hospital, and the method employed was that of Mr. H. G. Howse, described in Guy's Hospital Reports. The glycerine and arsenic preserving fluid was thrown into both vessels by the constant pressure apparatus at a pressure of eight centimetres of mercury, and it was particularly noted that there was no return by either artery during the process. The glycerine fluid was of the consistence of mucus. On the following day red lead mixture was thrown into both vessels by a powerful anatomical injection syringe. The vessels to their minutest ramifications filled out well, but there was no return by either artery. A careful dissection was made, and full notes of all the appearances observed were kept. Between the two coronary arteries three very fine and delicate anastomosing branches were discovered, all of them, however, so exceedingly small that a lens was required to trace them—viz.: (1) between the transverse branches on the posterior surface of the auricular ventricular sulcus there were two hair-like connecting vessels; (2) one hair-like vessel passed behind the aorta to connect the auricular branches; (3) a branch connecting the two vessels, which was verified by a lens, was found near the apex on the surface of the right ventricle. Between branches of the same artery only two very small anastomosing vessels were discovered, and both were in connexion with the left coronary. Not one of these connecting branches deserves to be considered as much more than a capillary branch, and had there been any larger communicating vessels it is not easy to see how they could have escaped detection.

Injection 3.—Both vessels were filled with glycerine solution under a pressure of from five to eight centimetres of mercury. The red paint solution was then thrown into the right coronary; the vessel filled out to its smallest branch. A careful dissection failed to find any communicating branch, although there must have been one or two small anastomoses, as in one of the descending branches of the left coronary a minute fragment of the red injection mass was found; and at the time of the glycerine injection one branch of the right coronary was found to be slightly filled while the left was being injected.

I think, therefore, it must be admitted that inoscultations do exist between the coronary arteries of the heart, but that these are anything like so large and numerous or of so much importance in maintaining the vitality of the heart when a branch is plugged, as one would gather from the statements of Wickham Legg and West, is, I think, much to be doubted. So far as my experience goes, I would say that the arterial inosculations are so trifling and so far apart from one another that they are quite unable to compensate for vascular obstructions, except in their immediate neighbourhood, and even there only after very considerable destruction of cardiac tissue has occurred. To be of any service in the way of restoring circulation after obstruction the anastomoses would need to take place through the medium of primary and secondary branches, and Struthers has pointed out that Hyrtl only said that the coronary arteries did not anastomose by such branches, a statement with which I perfectly agree. In two of the cases of obstruction of the coronary arteries to be afterwards recorded an injection of soluble Prussian blue was made by Dr. Joseph Coats in order to throw light upon the question of anastomosis. It was seen that the communication between the two vessels was pretty free, but, taken by itself and in the

[1] Guy's Hospital Reports, 1843., p. 109. [2] Loc. cit., pp. 19 and 20.
[3] The Anastomoses of the Coronary Arteries. THE LANCET, vol. i. 1883, p. 945; also Path. Trans., vol. xxxv., p. 66.
[4] On the Bloodvessels of the Nerves of the Heart. The London Medical Gazette, new series, vol. vii., 1848, p. 750.
[5] Virchow's Archiv, vol. lxxxv., p. 508.

absence of any careful dissection, such an experiment would only prove a capillary, or, if we may so speak, an *arteriolar* anastomosis, the existence of which, I think, must be admitted, but the service of which in compensating for any serious obstruction may fairly enough be doubted.

LESIONS OF THE HEART-WALL, WHICH MAY BE ASSOCIATED WITH DISEASE OF THE CORONARY ARTERIES.

The lesions of the cardiac muscle which are most likely to result from obstructed coronary circulation are—(1) *Fibroid Degeneration;* (2) *Fatty Degeneration;* (3) *Infarction of the Heart*, associated not uncommonly with spontaneous rupture of the ventricular wall. The lesions have been named in what I think to be the order of their frequency and importance, but for certain etiological reasons, which will become apparent afterwards, I prefer, in considering them in detail, to place Fatty Degeneration last. These morbid states, though very frequently occurring quite independently of each other, may be combined in the same heart, as is illustrated by some of the cases to be afterwards recorded.

Fibroid Degeneration.

In the course of the critical review which I have given of the literature of this affection it has been shown that in the minds of most English observers fibroid degeneration and chronic inflammatory change of the myocardium are regarded as practically synonymous terms (at least so it is stated by Bramwell). That this is not so, it is, as I have already said, one of the purposes of these lectures to prove. In a very large number of cases fibroid change is associated with disease of the coronary arteries of the heart, and if this be so then we have to deal with an affection of the myocardium, which may logically be placed in a category *per se*, and which clinically and pathologically has as much right to be regarded as nosologically a separate and distinct affection of the heart as, let us say, fatty heart. We have, I believe, in fibroid degeneration of the heart a morbid condition, the possibility of the presence of which should always be borne in mind by the careful clinical observer as a frequent source of cardiac weakness, and even of fatal syncope.

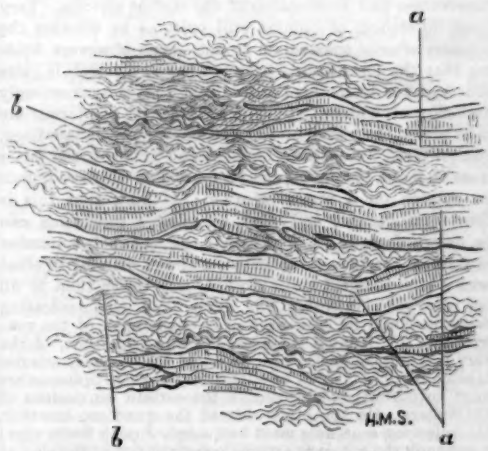
Fibroid degeneration is generally found in the wall of the left ventricle, and the extent of the affection may vary within very wide limits. Thus in some cases we may not find more than a patch or two the size of a split-pea or an almond, or, on the contrary, we may find the entire thickness of a very considerable area of the ventricular wall converted into a dense white fibrous tissue, as is perhaps most strikingly seen in cases of aneurysm of the heart. It is not at all infrequent to find the musculi papillares converted into tough fibrous tissue, and in some cases this may be the starting-point of the disease as regards other regions of the myocardium. In cases where the muscular tissue is extensively changed, as in cardiac aneurysm or fibroid disease affecting the entire thickness of the ventricular wall (see Cases 9 and 10 of the series to be afterwards given), there is not the slightest difficulty in at once recognising the morbid state.

In a very large number of the slighter cases, however, unless the lesion is carefully searched for it is almost certain to be overlooked, and under these circumstances it is only after slicing through the muscle in sections parallel to the surface that the morbid state can be detected. When thus present and discovered in the substance of the muscular tissue, fibroid degeneration presents the following naked-eye characters, which are typical and easily recognised. It occurs as a bright, white, glistening patch of irregular size and shape, and of tendinous character; the cut surface of the patch is usually depressed below the level of the surrounding muscle, and has a streaky, fibrous appearance, the fibres running in the direction of the normal muscular bundles. There is no sharply defined line of demarcation between the healthy and the diseased tissue, the normal passing into the abnormal quite irregularly. These are the appearances as described by Huber, by whom, at Leipzig, my attention was first drawn to the subject, and they are those which I have always seen in cases which I have since examined in this country.

When examined under the microscope the patch is found to be entirely composed of delicate wavy fibrous tissue, often presenting a very finely granular appearance. In well-marked cases—i.e., of fibroid degeneration as distinguished from chronic interstitial myocarditis—no cellular infiltration is to be seen, nor anything in the least suggestive of inflammatory action. The margin of the patch is quite irregular, and the adjoining muscular bundles are more or less broken up and separated from one another by encroachment of the fibroid metamorphosis. The separated muscular fibres at the extremity of the patch are usually pointed, and often become finer and finer until the fibre is lost in the fibroid tissue. Sometimes the muscle-cell seems to be prolonged into a wavy fibre, an appearance very suggestive of the gradual wasting of true muscle substance, only the connective tissue remaining to form part of the morbid area. It is also frequently seen that the muscular fibre itself has a wavy character very similar to that presented by the strands of fibrous tissue. In the midst of the patches isolated and much atrophied muscular fibres are frequently seen, and all the appearances evidently point to a gradual loss of true muscle substance, and to its place being taken by the wavy fibrous tissue. (See Fig. 1.) Minute arterial branches may often be made out in or in the neighbourhood of the patches, and these often give evidence of not being strictly normal, the chief abnormalities observed being a very decided hypertrophy of the muscular coat, and sometimes perhaps a slight thickening of the internal.

Etiological considerations.—In the foregoing remarks enough has been said to indicate pretty clearly my decided opinion that in true fibroid disease (perhaps it might be more correctly termed, as I have already pointed out, fibrous transformation) of the heart we have to deal with an

FIG. 1.

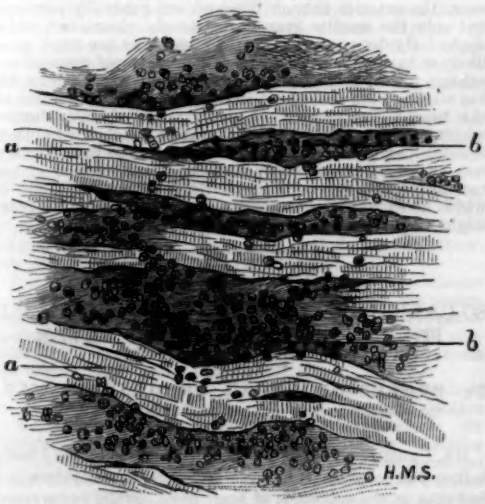


Showing the microscopical characters observed near the margin of a patch of fibroid degeneration. (Zeiss D. Eye-piece No. 3. × 350.) The drawing was made from a section taken from Case 3. *a*, Muscular fibres. *b*, Wavy fibrous tissue.

atrophic process going on in the affected areas, and that this atrophy is directly to be related, in the great majority of cases, to a diseased condition of, and consequent insufficient nutrient supply from, the coronary arteries. Of the very frequent association of fibroid degeneration with diseased or obstructed coronary arteries, the cases given by Huber, and also those to be afterwards recorded in the appendix, leave, I think, no very reasonable doubt. There is also but little difficulty in understanding the relationship existing between the two conditions and in tracing the sequence of events. Owing to the gradual obliteration of a particular branch of the diseased artery, and to the difficulty of establishing collateral circulation, a certain area of muscular tissue is slowly deprived of its necessary blood supply. Under these circumstances the connective tissue, requiring less nourishment and more tenacious of life than the muscle substance, is able to subsist on the diminished nutrient supply, whilst the more delicately and highly organised muscle readily succumbs. The muscular fibres slowly atrophy and disappear, and a fibroid patch is left. The patchy character of the disease is due, I believe, to the fact that all the branches of the coronary artery are not equally affected or obstructed. Fibroid degeneration is thus, in the first instance at least, always a localised affection, and never involves the entire myocardium simultaneously, although neighbouring patches may coalesce, and so give rise to extensive areas. It may

be associated with fatty degeneration, which, though patchy or mottled in distribution, is generalised and dependent, as I shall endeavour to show, on a general as distinguished from a local deprivation of blood supply. In cases where the arteries are apparently healthy to the naked eye, abnormalities may be discovered with the microscope (see Cases 2 and 3); and in cases where the arteries are actually healthy, branches may be obstructed by emboli, and give rise to the affection in the manner soon to be adverted to (see Cases 4 and 5). Fibroid degeneration of the heart is, I believe, most frequently caused in the manner already described; but there can be no doubt that in a certain proportion of cases we may have fibrous patches in the myocardium which are inflammatory in origin—i.e., we may have a true interstitial myocarditis as opposed to a true atrophic fibroid degeneration.. Case 10 seems to be an illustration of this form of disease. In many cases associated with pericardial adhesions the origin of the affection is inflammatory, and probably an extension from the inflamed serous membrane. In such cases numerous leucocytes are found mingled with the fibrous tissue and lying between the muscular fibres, a condition of matters which is hardly ever found in pure atrophic fibroid degeneration. In cases of syphilis, too, fibroid patches, which have probably resulted from the presence of gummata, have been found in the heart wall; and

FIG. 2.



Showing the microscopical characters observed at the margin of a patch of interstitial myocarditis. (Zeiss D. Eye-piece No. 3. × 350.) The drawing was made from a section taken from Case 10. *a*, Muscular fibres. *b*, Leucocytes and new fibrous tissue.

in Case 10 there was also evidence, especially in the condition of the liver, that the patient had suffered from that disease. In this regard a case of syphilitic disease of the heart reported by Mannino, which had been under the care of L. Federici, is of some interest.[6] Under such circumstances, the development of fibrous tissue in the myocardium obeys the laws which regulate inflammatory new formations in general. To such cases only can the term "interstitial myocarditis" be logically applied. (See Fig. 2.)

Clinical suggestions.—With regard to the clinical aspects of fibroid degeneration of the heart it is much more difficult to speak in definite terms. There is no definite physical sign, so far as I know, by which we can diagnose its presence, and at best we can only surmise its existence by taking a comprehensive view of the whole pathology of the case. As has been seen, it constitutes a very distinct and easily recognised lesion of the cardiac wall, and as such the possibility of its occurrence should always be kept in mind by the careful physician; and this is all the more necessary when we reflect that, if the lesion is at all extensive, it may be a powerful factor in producing cardiac debility, and under certain circumstances, as Fagge and Huber have shown, it may lead to sudden death. In all cases of widespread disease of the arterial system (arterio-sclerosis of the Germans), of cardiac dilatation, and of valvular disease arising in middle life apart from the rheumatic diathesis, the possible influence of fibroid degeneration as one factor in the production of the symptoms should be borne in mind. The symptoms may probably be very similar to those usually ascribed to fatty heart, and I think it not at all unlikely that a number of cases likely to be set down as examples of this affection may be fibroid. Further than this I feel I cannot at present venture to go with regard to the clinical significance of this lesion, as so far my studies with regard to it have been pursued in the post-mortem room, and not at the bedside. I have, however, since the present investigation was undertaken, seen a considerable number of cases in hospital practice in which I strongly suspected the presence of fibroid degeneration, and, if clinical opportunities accumulate, these may perhaps at some future time be recorded in this connexion. With regard to the generalised form of the disease described by Dr. Charlewood Turner[7] I can at present say nothing, as I have hitherto had no experience of it, and no opportunity of examining it. There is only one symptom which should be specially mentioned in connexion with fibroid degeneration, and that is angina pectoris. The association between this and a morbid state of the coronary arteries has been pointed out long ago, and in many of my own cases angina pectoris was a prominent and most distressing symptom.

Infarction of the Heart Wall.

This is a lesion which is to be directly associated with a morbid condition of the coronary arteries, and which very frequently leads to spontaneous rupture of the ventricular wall. The naked-eye appearances of acute cardiac infarction (myomylacia cordis of Ziegler) are sufficiently striking. The area may vary very considerably in size, and the affected tissue is as a rule much softened. In the recent state, when cut into, it presents a brown colour, and its surface is depressed below the level of the surrounding tissue; in severe cases the affected part may be semi-fluid in consistence. The microscopic appearances have been described at length by several observers, and as I shall advert to them afterwards in briefly describing typical cases (see Cases 4 and 5), it is unnecessary to refer to them in detail in this place. The muscular tissue is more or less broken up, and in many places has undergone coagulation necrosis—the nuclei and transverse striæ having disappeared, and the fibres having assumed a glassy homogeneous appearance; there is often a dense infiltration of round cells, probably from inflammatory reaction; the neighbouring bloodvessels are liable to be engorged with blood; and red blood-corpuscles are usually discovered in large numbers lying in the interstices of the tissue.

Etiological and clinical considerations.—Acute softening of the myocardium is almost invariably caused by complete and sudden occlusion of the arterial branch supplying the affected area of the heart-wall. The size of the area and the liability to subsequent rupture are directly dependent upon the size of the obstructed branch, as is illustrated by the cases of rupture recorded in the appendix. As a general rule, cases of infarction leading to rupture are associated with extensive disease of the coronary arteries, where, in addition to the chronic deterioration of nutrient supply, a sudden obliteration of the arterial trunk has occurred—e.g., by the sudden occurrence of thrombosis or embolism. But besides this very serious form of infarction there is also a variety of the affection (illustrated by Cases 4 and 5) in which the occluded vessels are small, and in which the resulting infarctions are also small and may be multiple; and it is necessary before going further that this form of lesion should be referred to at some length. Cases 4 and 5 are good examples of this condition, and a description of the appearances usually present will be given in describing them afterwards. Here also, just as in the slighter varieties of fibroid disease, the lesion, unless specially searched for, may be altogether overlooked, because there may be nothing either on the endocardial or pericardial surface to indicate its presence. In this condition the walls of the coronary arteries may be perfectly healthy, and probably the most frequent cause, as seen in Case 4, is severe endocarditis with abundant loose vegeta-

[6] Brit. Med. Jour., vol. i., 1882, p. 547.

[7] Loc. cit.

tions of the aortic curtains, giving rise to multiple embolism of the coronary branches. It was once believed that the mouths of the coronary arteries were closed by the aortic curtains flapping against them, and that the arteries were filled by the recoil of the blood after the systole was over and the curtains closed. We are, however, indebted to several observers for showing that the orifices of these vessels are open during the systole, and that the coronaries of the heart receive their blood-supply precisely like the other arteries of the body. Chief among these observers must be mentioned the names of Martin and Sedgwick,[8] and of Worm Müller and Sandborg.[9] There is thus not the slightest difficulty in understanding how under such circumstances embolism of the coronary arteries should be a not infrequent occurrence, and I think it not unlikely that we have in this morbid state a cause of cardiac debility and failure in severe aortic disease, and in other diseases of the heart as well, which has hitherto been overlooked on the part of clinical observers. Embolic lesions of this kind, small and multiple as they are, are not very likely ever to cause rupture of the organ; but it is quite possible to conceive the likelihood of a large embolic occlusion suddenly leading to this fatal result. Such a lesion, too, might be suddenly fatal without rupture, and before any very serious change in naked-eye appearance of the myocardium had been produced; for Cohnheim[10] and others have shown, in the case of dogs, that occlusion of a large coronary branch leads to stoppage of the heart in from thirty seconds to a minute. Minute and multiple embolic lesions, however, may be regarded as intermediate between the slowly progressing and localised atrophy leading to fibroid degeneration, and the sudden suspension of vitality over a large area, terminating in sudden death or spontaneous rupture. In Case 4 I think I have direct evidence of the truth of this statement. In this case, in addition to the small, soft, brown infarctions, there were also numerous minute areas of fibroid degeneration—the explanation of this doubtless being that, after the degenerated muscular substance had been absorbed, a fibrous patch, practically a scar, remained behind. The clinical importance of a morbid process of this kind directly resulting from valvular disease of the heart can hardly, I think, be over-estimated. With regard to the subject of rupture of the heart and its association with obstruction of the coronary arteries it is unnecessary for me now to speak, because I have elsewhere fully discussed the question in all its bearings.[11] Among the cases to be recorded as illustrating the present remarks, three of spontaneous rupture, in which the dependence of the accident on an obstructed coronary branch was undoubted, will be found, and in connexion with these is described all that is necessary to be said with regard to the histology and pathological anatomy of the condition.

Fatty Degeneration.

Fatty degeneration of the heart may frequently be directly associated with a diseased condition of the coronary arteries, although, as is well known, there are very many other morbid states which may give rise to it. In the present connexion it is well to bear in mind the distinction between fatty infiltration and fatty degeneration of the heart. In the former we have, practically, merely an exaggeration of the normal adipose tissue of the organ, in which the muscular bundles are pushed asunder, and caused to atrophy by the growth of the fatty tissue (fatty growth on the heart). In the latter we have a real conversion of the true muscle substance into fat, granular molecules of fat making their appearance in the muscle-cells, first of all in the neighbourhood of the nucleus, and ultimately filling up the whole cell. It is of the latter of the two conditions only that I am now speaking, as I have no evidence to show, nor have I seen it stated, that fatty infiltration of the heart is in any special way connected with disease of the coronary arteries. Fatty degeneration presents itself as yellow flecking or mottling, visible to the naked eye, on the endocardial surface, and generally most typically seen in the left ventricle. It is chiefly, if not solely, caused by any serious deterioration either in quantity or quality of the blood; thus it is almost a necessary concomitant of all profound anæmias, and, as showing the influence of deteriorated quality of the vital fluid, it is also found in connexion with certain forms of poisoning, a circumstance which has been frequently put to the test of experiment. This being so, one does not wonder that fatty degeneration should be frequently met with in cases of disease and obstruction of the coronary arteries, from the organ being thus deprived of its necessary nutrient supply. In several of the cases which form the basis of these remarks fatty degeneration was found along with the fibroid disease, but the fatty change was specially typical in the last two cases of the series—i.e., those in which a whole coronary artery was shut off from its blood supply by reason of complete obstruction at its point of origin. In Case 15 the generalised fatty degeneration was so pronounced as to produce a more than usually prominent naked-eye change; and there can be no doubt that the very serious interference with the coronary blood supply in these two cases was entirely to blame for the widespread fatty change in the muscular fibre. From what I have seen I would be inclined to formulate the following proposition, subject of course to the corroboration to be afforded by more extended observations—viz., in all cases where the main coronary trunk is slowly obstructed, and at last completely occluded at its origin, a generalised fatty degeneration is likely to result, and the cause of this change is essentially similar to that operative in profound general anæmias or phosphorus poisoning—viz., a grave deterioration of the blood supply to the whole organ. When, however, the arteries, though diseased, are generally pervious, and only the smaller branches seriously obstructed, while slight fatty degeneration may be present, we are much more likely to have a localised patch of fibrous transformation resulting. The effect of sudden obstructions of the coronaries has already been considered in connexion with infarction of the heart. The amount of deprivation of nourishment which can be borne by the heart, if it be but slowly induced, is indeed wonderful. In two of my cases the patent artery was also very considerably narrowed, and Greenfield has recorded a case where both arteries were occluded, and in which he suggested that under such circumstances the heart might be partially nourished by imbibition.[12]

[8] Journal of Physiology, 1880-82, vol. iii., p. 165.
[9] Pflüger's Archiv, xxii., p. 403; also Medical Times and Gazette, vol. ii. 1880, p. 633.
[10] Ueber die Folgen der Kranzarterienverschliessung für das Herz, von Prof. Jul. Cohnheim und Dr. A. V. Schultbess-Rechberg. Virchow's Archiv, lxxxv., p. 50o. [11] Glasg. Med. Jour., December, 1884.

[12] Med. Times and Gazette, vol. i. 1875, p. 297.

AN INVESTIGATION INTO THE SO-CALLED HENDON COW DISEASE AND ITS RELATION TO SCARLET FEVER IN MAN.[1]

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MR. PRESIDENT,—Though the investigation which I bring before you to-night is not yet complete in many details, I feel that, as the subject is of such great public importance, and information is awaited with keen anxiety in the agricultural world, it is right that an account of what has so far been done should at once be published, especially as the evidence which has already come to hand has forced me to come to definite conclusions. I would add I feel strongly in investigations which are so strictly pathological that the assembly to whom the results should first be made known is this Society. I desire, therefore, most cordially to express my indebtedness to Professor Brown of the Agricultural Department of the Privy Council for giving me permission to lay this matter before you, and to you, Sir, for having enabled me to do so without any delay.

Origin of the investigation.—I will ask you first of all, Sir, to allow me to remind you of the circumstances which have led to a searching inquiry being instituted by the Agricultural Department of the Privy Council into a disease in cows and its relation to scarlatina in man.

Scarlatina in Marylebone.—On Dec. 18th, 1885, Mr. Wynter Blyth reported to the Local Government Board a sudden and extensive outbreak of scarlatina which was associated with the distribution of milk by a particular retailer in South

[1] Abstract of a Report to the Agricultural Department of the Privy Council, read before a special meeting of the Pathological Society of London, Dec. 13th, 1887.

Marylebone. The retailer procured his milk from two farms, and there can be little doubt that the milk responsible for the outbreak was derived from a certain dairy farm in Hendon. Mr. Blyth and the medical officer of health for Hendon, Dr. Cameron, were unable to obtain any clue as to the source of infection, and Mr. Power was deputed by the Local Government Board to make an inquiry into the matter.

Mr. Power's diagnosis.—Mr. Power, having come to the conclusion that the milk had not become infected from any human source, proceeded to investigate the condition of the cows. A careful examination was made with a view to detecting any disease among the cows, and it was discovered that there were several on the farm which were suffering from a disease characterised by the appearance of vesicles and ulcers on the teats and udders. At this stage Dr. Klein became associated with Mr. Power in the inquiry, and we are told that their belief in the existence of a constitutional disease among the cows on the farm capable of producing scarlatina among human consumers of the cows' milk became unreserved. Dr. Klein took with him samples of milk, contents of vesicles, and discharges from ulcers, and afterwards two cows were purchased and conveyed to the Brown Institution. At this stage of the inquiry a cowman pointed out to Dr. Klein that he had seen the disease on a certain cow which was one of a batch that had been imported on Nov. 15th from Derbyshire.

Dr. Cameron's account.—In a paper read before the Epidemiological Society, Dr. Cameron gave a detailed description of this cow disease. He pointed out that it was a specific contagious and infectious disease, capable of being communicated to healthy cows by direct inoculation of the teats with virus conveyed by the milker from a diseased animal. Further, he pointed out that the disease was communicable to man.

The disease in man.—A trusty informant received the virus into a recent scratch on the forefinger while milking a diseased cow. General weakness, malaise, and loss of appetite resulted, and after about four or five days a vesicle or small blister appeared on the finger. This broke, and several others formed on the back of the hand. The whole hand and fingers became swollen and inflamed, the inflammation extending in broad lines as far as the elbow. The general disturbance lasted a fortnight.

Symptoms in the cow.—Dr. Cameron regarded the disease in the cow as constitutional, and he pointed out the occurrence of initiatory fever, cough, sore-throat in severe cases, discharges from the nostrils and eyes, eruption on the skin round the eyes and on the hind quarters, vesicles on the teats and udders, and visceral lesions.

Character of the eruption.—The condition of the teats is described as follows:—The teats became enlarged, swollen to nearly twice their natural size, and œdematous. On fingering them there was no feeling of induration. Vesicles or bullæ then appeared on the swollen teats and upon the udder between or near the teats. These varied in number from two to four on a teat, and in size from a pea to a horse-bean. The vesicle contained a clear fluid. The vesicle, Dr. Cameron adds, was not preceded by a hardened papule, but was in the first instance a vesicle or bulla. The vesicles were rubbed and broken on milking, and left raw sores, sometimes red, in other cases pale in colour, with raised ulcerated edges. Sometimes a few accessory vesicles formed around the margin of these ulcerated sores. After the rupture of the vesicle a brown scab formed, which might remain attached for five or six weeks or fall off in ten days or a fortnight, a smaller one forming afterwards. A thin watery fluid exuded from under the scab and the sore ultimately healed. Many scabs varied in size from a shilling to a florin; they were about one-eighth of an inch thick in the centre, thinning off towards the edges. When picked off, the recently healed skin was of a pearly-blue colour, with slight tendency to bleed when the scabs were forcibly detached. According to Dr. Cameron there was no depression of the vesicle or pitting of the skin. The swelling of the teat gradually subsided.

Dr. Cameron's diagnosis from cow-pox.—Dr. Cameron thus sums up the diagnosis from cow-pox: "No hard pimple preceding vesiculation, no subsequent formation of pustule, no central depression of the vesicle, no marginal induration, no areola, and no pitting." In connexion with this, it should be observed that Dr. Cameron acknowledges that not all of his account had been the result of personal observation, and that of necessity some of the earlier symptoms had been learnt from other persons.

Dr. Klein's account.—I will now follow with the account given by Dr. Klein. He states that on the teats and udders of two cows which he investigated there were several flat irregular ulcers, varying in diameter from a quarter to three-quarters of an inch. Some ulcers were more or less circular, others extended in a longitudinal direction on the teat. The ulcers were covered with a brownish or reddish-brown scab. The margin of the ulcer was not raised, nor was there any perceptible redness of the skin around. A small vesicle would make its appearance on a greatly swollen teat, and in the course of a couple of days assume the character of the above ulcers. As a rule, the disease affected the teats; but in some there was also, on the lower part of the udder here and there, an ulcer. In such animals patches denuded of hair were noticed on various parts of the skin, the tail and back particularly. In these patches the epidermis was scaly and the cutis more or less thickened. The animals looked thin, but not strikingly so. In feeding capacity, milking power, and body temperature there was nothing abnormal. Two of these animals, as I have already mentioned, were sent to the Brown Institution.

Post-mortem appearances.—Both were killed, and at the necropsy there were found on one (No. 3) petechiæ under the pulmonary pleura, peripheral lobules congested, and adhesions between lower lobes of lung and costal pleura; in the liver reddish streaks and patches; spleen and kidneys slightly congested; on the placenta petechiæ. In the other (No. 4) there were numerous congested lobules in the lungs, and pleural adhesions; cortex of kidneys congested.

Inoculation experiments.—To study the transmissibility of the disease, Dr. Klein inoculated four calves in the corium of the groin and the inside of the ear with scrapings from the ulcers after removal of the crusts. In calf No. 3 there was vesiculation at the margin of the spot inoculated, and in the centre commencing formation of a crust. On the seventh day each sore on the ear had enlarged to about half an inch in breadth, and was covered in its whole extent by a brownish crust. On the eighteenth day they had all healed up and become converted into flat scars.

The micrococcus of scarlatina.—To search for micro-organisms, Dr. Klein removed the crust from an ulcer on the teat, scraped off the most superficial layer, squeezed the ulcer, and made cover-glass preparations with the exuded lymph. Tubes of nutrient gelatine and nutrient agar-agar were also inoculated. Dr. Klein succeeded in isolating a micrococcus which, after three to six days at 20° C., formed at the line of inoculation small points or granules, whitish in colour and tolerably closely placed. In the depth of gelatine the channel of inoculation was visible as a whitish streak, made up of smaller and larger droplets. The gelatine was not liquefied. Cultivated in milk and incubated for two days at 35° C., the milk was turned solid. Microscopic examination of a culture showed that there were micrococci, diplococci, and shorter and longer chains. In both, after two or more weeks' incubation, very long chains were formed. The micrococci showed a peculiar mode of division. The chains showed branchings, and here and there in a chain the presence of a larger element amongst the smaller ones.

Inoculation with cultivations.—Dr. Klein inoculated two calves in the groin with the cultivated micro-organisms. One calf died in twenty-seven days. No ulcers resulted, as after inoculation with the scraping of the sores; but at the necropsy there were found peritonitis, hæmorrhagic spots on the omentum, congested liver, kidneys, and lungs, petechiæ under the pleura, and pericarditis. In the second calf, on the nostrils and lips and in the hard palate and gums numerous irregularly outlined patches were seen. They were discoloured, brownish, with a very slightly raised margin and a paler centre. This animal was killed, and at the necropsy there were congested lungs, kidneys, and hæmorrhagic patches on the spleen. Thus in neither of these cases was a real ulcer produced as the result of the inoculation of the cultivated organism, but the post-mortem appearances and anatomical features recalled to Dr. Klein the lesions of scarlatina. In the kidney, for example, there were congestion of the cortex, hæmorrhages and glomerulo-nephritis, and granular or opaque swelling of the epithelial cells and infiltration with round cells. From the blood of the heart the micrococcus which had been used in the inoculation was recovered. In view of the evidence, Dr. Klein concluded that the *streptococcus was identical with the virus of the cow disease*, and that it produced a disease very closely resembling that of scarlatina. In a paper read before the Royal Society, Dr. Klein describes how the work was carried on during 1886-87. Dr. Klein

found in the blood of human scarlatina that a micrococcus was present in four out of eleven cases. The micrococcus proved to be identical in its microscopical appearances and in its characters on cultivation with the micrococcus found in the Hendon cow disease. And by inoculation with a cultivation of the scarlatina micrococcus, he states that a cutaneous and vesical disease resulted, which was identical with that produced in the calves infected with the micrococcus from the Hendon cows.

Dr. Klein's conclusion.—In conclusion, Dr. Klein says:—"It must be evident from these observations that the danger of scarlatinal infection from the disease in the cow is real, and that towards the study and careful supervision of this cow disease all efforts ought to be directed *to check the spread of scarlet fever in man.*"

An eruptive disease is reported.—Cases of an eruptive disease of the cow having been reported to the Agricultural Department of the Privy Council, I received instructions from Professor Brown to undertake a series of researches on the lines indicated by Dr. Klein. The first animal that came under my observation had been purchased and removed to the Royal Veterinary College. This cow I shall speak of as No. 1. She was fairly well nourished, eat well, and was normal in her milk supply. Her temperature was normal on admission, but subsequently rose from mammitis occurring as a complication. There was no desquamation, nor were there in this case any patches destitute of hair.

Character of the eruption.—But there was a characteristic disease of the udder and teats. On the right teats there were numerous sores varying in size from a pea to a penny. The sores were covered with crusts varying in thickness and generally fissured. In some they were flat, in others conical. Some were with difficulty removed with forceps, others were readily detached. The crusts varied in colour from reddish-brown to a very dark brown or almost black. On detaching or scraping a crust there was a granulating and somewhat indurated base. On the right anterior teat there were several ulcers, from which apparently the thick crusts had been detached, and new scabs were forming. On the left posterior teat there were unusually large dark-brown crusts, especially at the extremity of the teat.

Examination for micro-organisms.—Having entirely removed the crusts from some of these ulcers, I squeezed the base, and from the discharge I made a number of inoculations in nutrient gelatine and nutrient agar-agar. I also collected the discharge in capillary tubes and sealed them immediately, and also made a number of cover-glass preparations.

Inoculation experiments.—With the discharge and with scraping from the ulcers I inoculated four white mice, one guinea-pig, and two calves. Of the two calves one was inoculated by scarification on both ears; the other was scarified on the left ear and inoculated on the left groin by making an incision through the corium and rubbing in a scraping from an ulcer. In each ear and in the groin there were positive results. In the large brown calf inoculated in the right ear in two places, one place went through the following changes. On the third day there was apparent vesiculation, and commencing formation of crust. From day to day the crust thickened, and on the eighth day the crust was at its height, and detached at the edges. By removing the scab an ulcer was exposed. There was slight inflammatory thickening. About the thirteenth day the ulcer had quite healed. This corresponds very closely with the results obtained by Dr. Klein. The temperature of the calf was only slightly raised.

Cultivation experiments.—I will now describe the result of the cultivations. The inoculations had been made for the most part in tubes of nutrient gelatine and nutrient agar-agar solidified obliquely. To separate the different organisms that might be present, I employed either Koch's plate-cultivations or Esmarch's method, or I simply drew the platinum needle in a line on the surface of the nutrient medium. Agar-agar tubes, inoculated in this way, were placed in the incubator at 37° C., and gelatine tubes were kept at 20° C. In the course of two or three days a growth commenced along the track of the needle, consisting mostly of china white, yellow, orange, and little dot-like colonies. Examination of the latter with a magnifying glass showed a little darkened centre corresponding exactly with the figure given by Dr. Klein. Cover-glass preparations revealed at once an organism identical in form with that described by Dr. Klein. From these colonies cultivations were established in a number of tubes of nutrient gelatine, and in two or three days, at 20° C., the cultivations gave the peculiar finely dotted appearance which has been figured and described so minutely. These preparations were demonstrated to Professor Brown on Nov. 23rd. This micrococcus grows also in broth and turns milk solid, so that it exactly corresponds with the description and figures given by Dr. Klein of the so-called *micrococcus scarlatinæ*. As I had procured cultivations, the animal was ready to be killed, and Professor Brown was anxious that Dr. Klein should be present at the post-mortem. In deference to Dr. Klein's wishes the cow was conveyed to the Brown Institution, on the condition that due notice was given to enable us to be present at the necropsy.

Another outbreak.—On Nov. 24th I accompanied Professor Brown to see another cow affected with a similar disease belonging to a herd in another county. The affection in this case was not so severe, but it also showed the same characteristic brown or reddish-brown crusts, which on removal exposed a granulating thickened base with exudation of a lymph-like discharge and slight hæmorrhage.

Natural infection.—The cow was suckling a calf, and this calf had previously been suckled by another cow also affected with the same eruption of the udders and teats. The calf had developed flat angry-looking ulcers on the nose and hard palate, and an eruption in the hairy part of the nose near the muco-cutaneous line of union. Cow No. 1 having been sent to the Brown Institution, a second cow (No. 2) was purchased from the same herd as No. 1. This cow also had a calf with suspicious places on each nostril: on the right side an apparent abrasion, and on the left a distinct but thin flat brownish scab. It would appear, then, that these calves had inoculated themselves by sucking the sore teats.

Inspection of an infected herd.—On Saturday, Nov. 26th, I proceeded to the affected farm from which the diseased cows Nos. 1 and 2 had been purchased. On my arrival I made inquiries as to the first occurrence of the outbreak. I gathered that it appeared about the end of September, but it was said that no fresh cows were imported at that time. The disease commenced at a farm which I shall call V. The cows were moved from farm to farm, so the disease spread through all the farms W, X, Y, and Z. In all there were about 160 cows. By examining two milkers I obtained the following history. They said that the teats swelled, were hot to the touch, and very tender. As a result the animals were milked with difficulty. The milkmen resorted to the standing position, as otherwise they and their milk-pails were upset. In some cases the pain on milking was so great that the animals became almost unmanageable and had to be tied by the legs. One man described the pain caused by milking the severe cases as "most barbarous." They stated that a little white bladder would rise up on the teat, which would become as large as a pea or much larger, and then was burst in the milking. As a result a sore formed and became covered with a scab. Matter formed under the scab, and as the scabs were broken in milking, matter and blood would come out on their fingers and get mixed with the milk. Sometimes the scabs would become rubbed off, in other cases they fell off, and finally in four or five weeks the sores would be healed.

The disease in man.—At these farms I found that the disease had been communicated to several of the milkers. They had been inoculated some weeks before my visit, so I had at this stage no opportunity of seeing the early changes. I had therefore to rely a great deal on their description. I will select a few cases.

Cowman R—— showed me a scar on his right hand. He said he was the first to catch the disease. It came as a hard painful spot, which formed matter and then a big scab. He had continued milking ever since, but had no fresh "places."

Cowman F——, about a month ago, noticed spots which appeared on both hands. His fingers swelled and were painful. He says it came first like a pimple and felt hard. Then it "weeped out water" in four or five days. There were red marks creeping up his arm. There was a sort of throbbing pain, and he could not sleep at night. When I saw him I found on the right hand a scar, but on the left hand there was an ulcer about the size of a shilling covered with a thick black crust. The crust was partially detached and exposed a granulating ulcer. It was the exact counterpart of an ulcer on the cow's teat.

Cowboy H—— had both hands bad about a month ago, first the index finger of the left hand and then the right hand. He says that it came up like a hard pimple, and the

finger became swollen and red. After a few days it "weeped out" water and then matter came away. Both his arms were swollen, but his left arm was the worst. About a fortnight afterwards he noticed "kernels" in his armpits, which were painful and kept him awake at night. His arms became worse, he could not raise them, and he had to give up milking. He also had a bad place on the lower lip. On examination I found that the axillary glands were still enlarged and tender. He volunteered the statement that the places were just like the sore teats.

H——, the bailiff's son, had a sore on the upper lid of his right eye and left hand. In both places he had previously been scratched by a cat. The right hand had also been infected. It commenced, he says, a fortnight ago. His hands were swollen, red, and hot. He felt very poorly and went to bed. Little spots like white blisters appeared on the back of his right hand; these broke and "rose up" in thick scabs. He was very ill for two or three days, but did not send for a doctor. He had painful lumps at the bend of the arm and in the armpit. He gave up milking, and had not taken to it since.

Absence of scarlatina among consumers of the milk.—As I have said, there were altogether about 160 animals on these farms, and all, or nearly all, had contracted the disease. The milk was drunk on the farms and in the village, but most of it, amounting to eight churns a day—that is, sixty-four barn gallons, or 1088 pints,—was sent twice a day to a large city. Not being distributed in a wealthy neighbourhood, we may roughly estimate the number of persons drinking the milk at about 1500 or 2000. I was informed that there were no cases of scarlatina on the farms or in the village. In the town district in which the milk was distributed there was no epidemic. From these observations and researches, I think that we are justified in concluding that the disease I have described is identical with the Hendon cow disease. For—(*a*) In both cases we have an eruption confined almost entirely to the teats and presenting precisely the same appearance and with the same history. (*b*) In both, the disease is communicated from animal to animal by the virus being conveyed by the hand of the milker. (*c*) In both, the disease is communicable to man when the virus is received into abrasions or scratches on the skin, and produces, judging from the description, a similar disease. (*d*) In both, the disease is communicable by experimental inoculation. (*e*) In both there are occasionally the same constitutional symptoms, slight rise of temperature, eruption on the skin, patches devoid of hair, running from the eyes, &c. (*f*) In both there are streptococci associated with the disease, which are identical in every respect in their microscopical appearances and in their characters on cultivation. And therefore I am of opinion that we are justified in concluding that the Hendon cow disease was not scarlatina in the cow, and that in the Hendon cases the source of infection was from some unascertained human source.

Nature of the disease.—I now pass on to give you my opinion as to the nature of this disease. The appearance of the eruption, especially in the bailiff's son, aroused a suspicion in my mind, and on returning from my visit to the farm I very earnestly questioned some leading veterinary surgeons as to the nature of this disease in the cow. I was assured that it was very common and very well known, though not described in the text-books of veterinary medicine. It was referred by them to various causes. In deference to their opinion I even suggested that if it were an undescribed disease it might appropriately be termed a contagious mammillitis. But my suspicions clung to me, and were strengthened by studying the descriptions of affections of the teats in the cattle, and I expressed to several my disappointment at not having had an opportunity of seeing the earlier stages of the disease in man. I therefore determined to visit the affected farm again and again with a hope of seeing some fresh cases. On Dec. 2nd I was rewarded for my trouble, for in course of conversation with a head cowman my attention was drawn to a lad who was standing at some little distance. I was told that his was a new case, and an examination of his face revealed to me in a moment that my suspicions were well founded, for I was convinced *this disease of the teats of the cattle was the true Jennerian cow-pox*. My first impulse was to carry the boy straight off to London, but the question of accommodation led me to have advice first as to what course I should pursue. I therefore made a drawing of the boy's face, filled a number of tubes with lymph, and spent the rest of the day in visiting a farm I had not previously seen. Here I found a very intelligent head cowman whom I had not interviewed before, and I determined to elicit from him all he knew of this disease in his own words. He said that he had long known this disease of sore teats, and that twenty years ago he had had the sores on his fingers, just in the same way as the lads now on the farm. He added that he had no fear of milking the cows, because he was sure he would not get it again. I then asked him to tell me exactly what occurred in the teat from the very first, and he said that it began as a hard pimple on the red teat, that this got a white head, and then there came a blister with watery fluid, which was subsequently broken in the milking. Another cowman added that he had seen the watery fluid get like "brainy stuff" before the blister was broken. Thus, the history of what occurs must be as follows: First, there is a papule and then a vesicle, with first clear and then turbid contents. The vesicle on or before the turbid stage is ruptured by the hand of the milker, and the normal course of development of the pock is interrupted. The irritation of milking twice daily causes extensive ulceration and consequent formation of large fissured crusts; and thus, instead of getting well in about a fortnight, the disease is prolonged for four or five weeks or longer, and when finally healed there is an irregular scar. It is the hand of the milker which is responsible for the striking differences in appearance from the normal pock, such as the absence of pustule and pitting; but as for the reported absence of the initial papule in the Hendon cases, this is easily accounted for by Dr. Cameron's admission that for the earlier symptoms he relied on the statements of others. No doubt these accounts were incomplete, as in the first milkers' description to me. On returning to London in the evening, I confided my convictions to Dr. Curnow, and asked his advice as to bringing the boy to London. Dr. Curnow very kindly arranged to have him admitted to the Seamen's Hospital, Greenwich; and on the following day (Dec. 3rd) I persuaded the boy to accompany me there so as to have him under observation. I shall not trouble you, Sir, with full details of this case; but his condition at various stages is represented in these drawings. Suffice it to say that it was a most typical pock, and that lymph taken from the vesicle produced in the calves typical vaccinia.

Diagnosis from spurious forms of cow-pox—The characteristic development of the pock on the boy's face and the production of typical vaccinia in the calf with the lymph were the conditions necessary for proving conclusively that this was the true cow-pox. The spurious forms are local eruptions on the teats, and are some of them communicable to the hands of the milker. They were recognised by Jenner,[2] Hering,[3] and Ceely,[4] and stress was laid on the necessity of being able to diagnose them, as they afforded no immunity from small-pox. There is only one form—the white or blister-pock—which is likely to cause difficulty in diagnosis. This disease is of short duration. The vesicles are only subepidermic, attain their height in twenty-four hours, are not truly umbilicated, and have no areola, and after bursting form a thin scab. There is no fever.

General remarks.—Now, Sir, the question may occur to you, Is this micrococcus identical with the virus of vaccinia? I am devoting my attention to this and to the study of any other organisms which may be present in the lymph. If it be true that the same streptococcus occurs in scarlet fever, diphtheria, puerperal fever, in improperly preserved milk, and perhaps, too, in foot-and-mouth disease, there can be but little doubt that we have only to deal with a micro-organism, which, when cultivated and inoculated in healthy animals, is capable of setting up a septic inflammation. Indeed, the post-mortem appearances observed by Dr. Klein point, in my mind, only to septic complication, which may equally occur in cow-pox, in scarlatina, and in other febrile diseases. I think that the explanation of this micrococcus being found occasionally in scarlatina is that, in severe cases with ulcerated throat, the blood is unable to cope with the invasion of micrococci from the surface lesion. If this be so, the opinion which I wrote early in 1886 concerning the micrococci which had been described in measles applies also to this micrococcus—viz., that in this and in many other cases I only described these organisms as distinct species "from their association with particular diseases, not because they are believed to be

[2] An Inquiry into the Causes and Effects of the Variolæ Vaccinæ, &c. 1798. [3] Ueber Kuhpocken an Kühen. 1839.
[4] Trans. Prov. Med. and Surg. Assoc., vol. viii., 1840, and vol. x., 1842.

causally related, for there is very little evidence in favour of that belief as yet, but purely for convenience of reference. In many cases they are probably only septic organisms which have found a pabulum in dead tissue; others appear to be identical with organisms which have been found in pus."[3]

Conclusions.—As the practical outcome of this research, I would strongly urge that prompt measures be enforced for isolating diseased animals, and preventing the spread of the disease through the herd. And as the milk is liable to be contaminated with blood, pus, and discharges from the teats, I consider that it would only be consistent with the most elementary rules of sanitation that only the milk obtained from the healthy cows in the herd should be sent into the market. Such measures, I trust, will lead to the alleviation of much suffering in the cows, ensure greater cleanliness in the milk, and provide another source of vaccine for public use.

THE CENTRAL NERVOUS SYSTEM AND AXIAL SKELETON IN ANENCEPHALOUS MONSTERS.

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THE following description of parts in this comparatively rare form of monstrosity is taken from a seven months' anencephalous fœtus which I recently examined and dissected.

The well-known deficiency which exists on the dorsal surface of the fœtus extended from the head to the sacral region in the form of a broad shallow groove, on the floor of which the spinal cord lay exposed, which terminated above in a well-marked medulla oblongata. The groove of deficiency was broadest at its upper part, and narrowest at its middle, where the sides approached each other, more than at the two extremities. The sides of the groove were formed by the rudimentary laminæ of the vertebræ, which normally grow backwards to enclose the spinal cord, but which here are deficient. In the cervical and lumbar regions the laminæ were distinctly everted and almost in a line with the transverse processes, while in the dorsal region they were turned inwards and approached each other, giving rise to the narrow part of the groove above mentioned, and showing a tendency to the conversion of the groove into a canal as it normally exists. At the upper part, in the occipital region, the groove was bounded by an incomplete ring of bone, formed by a part of the occipital, which I shall again describe more fully, and to this ring of bone a strong fibrous membrane was attached which extended a short distance, partly covering the nervous structures contained in the occipital part of the groove, to which I shall again refer. Outside the ridge formed by the laminæ the skin terminated abruptly, the whole groove being devoid of skin; but covering the various structures lying in the groove was a thin, delicate, transparent membrane, which, traced outwards, was found to become continuous with the skin outside the laminæ, and, traced inwards, became attached to the spinal cord, but which had no attachment at all to the subjacent laminæ, and could with ease be lifted from their surface. This membrane, I have ventured to suppose, is of epiblastic origin, from the connexion which it has with skin and spinal cord, which structures are also developed from the epiblast, while the laminæ, to which it has no attachment, are developed from the mesoblast. The spinal cord extended downwards within an inch of the lower end of the groove of deficiency, and possessed its two well-developed symmetrical halves, separated by a well-marked dorsal fissure, which remained unclosed, and which terminated inferiorly in a rhomboidal space, corresponding probably to the rhomboidal dilatation, which remains for a time at the lower end of the central canal of the cord in a normally developed fœtus. The medulla was well developed, and on its dorsal surface the fissure continuous with that of the cord could be traced up to a well-marked fourth ventricle, overhanging which was a very small yet recognisable cerebellum, which was connected to the medulla by two distinct nervous bands, the inferior peduncles, which partly bounded the fourth ventricle. Lying just above the cerebellum was a large rounded mass (non-nervous), whose nature I at first could not make out, but upon incising it I found it contained a cavity filled with blood, and was therefore of the nature of a venous sinus; to this sinus I shall again refer, as it has certain important connexions. This mass was partly covered by and attached to the fibrous membrane before mentioned. The different nerves which arise from the medulla—the ninth, eighth, and seventh pairs—were well developed, and passed outwards to enter their respective foramina, the auditory also receiving fibres from the cerebellum. On tracing the medulla upwards, continuous with it was found a small mass of brain substance, from which several nerves passed out—viz., the optic, the third, and the fifth; but beyond this no trace of brain substance could be found. I dissected the optic nerve very carefully, and found, on the removal of the roof of the orbit, that the eyeball and parts in relation to it were well developed, with the optic nerve in its normal position, having its dural sheath, which was attached to the margin of the optic foramen. The nerve was traced back to the small mass of brain substance from which it emerged, but the optic commissure was absent, the nerve passing directly forwards to the eyeball of the same side, and having no connexion with the opposite nerve. I could find no trace of the olfactory tract or bulb. This mass of brain substance, from its position, and also from its close relation to the cerebellum, I at first thought was the pons Varolii, but the fact that from it the above nerves emerge suggests the idea that it must represent something more than the pons, for the optic nerve which passed out of it was well marked, and this in its development has no relation to the pons Varolii. It may be noticed that the only parts of the brain which were recognisable were those developed from the posterior primary vesicle—pons, medulla, and cerebellum; but the mass of structure, though extremely rudimentary, which occupied the position of the pons, must have a relation developmentally to the anterior and middle primary vesicles also, seeing that the optic nerve emerges from it, which nerve is developed from the mesencephalon and thalamencephalon, which belong to the middle and anterior vesicles respectively; but the remaining part of the anterior vesicle—viz., the prosencephalon, from which the cerebral hemispheres and the olfactory bulb are developed, seemed to be entirely absent. As to the bones of the head, I have previously mentioned the incomplete ring of bone formed by the occipital, to which a fibrous membrane was attached, and close to which I found a rounded mass of fibrous tissue having a large venous sinus in its interior. This sinus communicated with another sinus on each side, which passed outwards at the junction of the bone and fibrous membrane, and was traced to the jugular foramen. This sinus was therefore the lateral sinus, the central large sinus representing the torcular Herophili, and the parts of the occipital bone here represented are the ex-occipitals and the tabular portion of the bone which lies above the transverse sinus, while the tabular part which lies between the transverse sinus and the foramen magnum was absent, or was merely represented by a fibrous membrane, which had not become ossified. The frontal and parietal bones were well ossified, and formed a flattened compact case, which lay in close contact with the floor of the cranium, the clinoid processes of the sphenoid touching the under surface of the cranial roof; the interval between the floor and roof of the cranium was too small to admit even the handle of a scalpel. Unlike the normal fœtal head, there were no fontanelles, for in the position of the anterior fontanelle the bones forming the coronal, frontal, and sagittal sutures met in a point, the sutures forming a rectangular cross. The same condition existed at the junction of the lambdoid and sagittal sutures in the position of the posterior fontanelle. The floor of the cranium was normally developed. I have but merely alluded to the parts of the brain which are not represented in the fully grown anencephalous monster; but seeing how completely the optic nerve and eyeball are developed, while the rest of the structures developed from the middle and anterior cerebral vesicles are absent, one is naturally led to suppose that these vesicles at one time did undergo a certain amount of development, which afterwards became aborted, giving place to retrogressive changes,

[3] Manual of Bacteriology, p. 201.

though this opens up a field of investigation into which I must refrain from entering at present, not having the opportunity of examining the brain in this form of monsters from its earliest stages of development.

Flint.

A CASE OF HYSTERO-EPILEPSY SUCCESSFULLY TREATED BY REMOVAL OF DAMAGED UTERINE APPENDAGES.

BY LAWSON TAIT, F.R.C.S., &c.,

PROFESSOR OF GYNÆCOLOGY, QUEEN'S COLLEGE, BIRMINGHAM.

THE husband of this patient, a well-known physician in Rome, applied to me early in August concerning the sufferings of his wife, and he has given me the following history of the case. She was thirty-three years of age last July; she was married at eighteen; the first child was born ten months afterwards, the labour being natural and the convalescence perfect. In 1874 she aborted at the third month, the pregnancy being twins. The cause of the abortion was accredited to an accident, by which she fell downstairs. This abortion was followed by pelvic peritonitis on the right side, which seemed to centre in the Fallopian tube, and she was unable to leave her bed for three months. One year afterwards she aborted again, and on this occasion a similar inflammatory attack occurred on the left side; but she was not so severely ill as on the previous occasion. Her second convalescence, however, was very protracted; she never regained her ordinary strength; was unable to walk without suffering from pain in the pelvic fossa, which was greatly intensified at each menstrual period; and ever after the first abortion she was altered in temperament, and became *exalté* and irritable. For four years after the second abortion marital intercourse had to be avoided on account of the intense suffering it occasioned. In the spring of 1885 she was attacked for the first time with a convulsion, which lasted for about an hour, and similar attacks were repeated for two months, twice in twenty-four hours, which were very violent, sometimes requiring five or six persons to hold her. During the following two months they diminished somewhat in violence, in length, and in frequency, and quite disappeared in May, 1885. During that time she made frequent attempts at suicide, and her husband did not consider it safe to leave her without the constant presence of a nurse day and night, until December of the same year. During 1886 she had no attack, but was very feeble, very highly excited at times, and alternately in a condition of despondency. On Jan. 2nd, 1887, she was suddenly seized with violent trembling, which passed into convulsions, and these lasted for four hours. Similar attacks occurred daily, sometimes twice a day, until the middle of March. On May 15th she was removed from Rome to Lugano, it being her husband's intention, as soon as she was able to travel, to bring her to England for the purpose of having an operation performed for the removal of the uterine appendages. At Lugano she had a period, during which she was worse than ever; for most of the time she was in a condition of convulsion, and for the greater part she was unconscious.

Her husband communicated with me by letter on August 5th, to tell me of her condition. His letter is as follows: "The day before she was to start she was again seized worse than ever, the convulsions lasting from three to four hours, followed by wild delirium; for days she had no sleep. This continued for eight days, then she began to improve, and I was hopeful of getting her to England by easy stages. But ten days since she became worse, and the mania that followed was of a suicidal character. I am satisfied nothing will be of service except removal of the uterine appendages, as those on the right side have been diseased for the last eleven years. During the present attack there has been great tumefaction over the right ovary and tube, with fever and intense pain. Four days since a considerable quantity of fetid, greenish-yellow pus escaped from the uterus; in my opinion it came from the tube. Since then she has been better, and there has been less tumefaction. I cannot operate on my own wife, and I propose that you should do the operation. Please write and tell me when I had better bring her." I replied by telegram that it seemed to me impossible to move the patient under such circumstances, and that I would run over to Lugano for the purpose of placing my services at his disposal. He replied by telegram to the effect that she was too ill to permit of such delay, and Professor Porro of Milan was called to see her. On Aug. 17th I received from the husband the following letter: "Professor Porro commenced his operation yesterday at 11 o'clock, and finished by abandoning it at a quarter-past 12. He made an incision three inches and a quarter long. He says both tubes and ovaries were so densely adherent that it was impossible to separate them from the mass of organised tissue in which they were embedded. The slighter adhesions he broke up, and then crushed the base of the ovaries with strong forceps, with the hope, he says, of partly destroying their function. He wished me to feel the attachments, but I declined, as I preferred to leave all responsibility with him. She suffers dreadfully. I give her as much morphia as I dare, but there seems no possibility of controlling it entirely. There is constant nausea and vomiting; the pulse is very weak and compressible (80); temperature 99°. If my poor wife recovers sufficiently, and you think there is a possibility of help in the future, I shall bring her to you." She recovered from the operation, and on Aug. 30th I received a letter from the husband to the effect that he was coming over to England to confer with me on the subject of future interference. But on his road he received in London a telegraphic despatch that all the symptoms, including the violent convulsions, had returned with, if possible, greater severity. To continue the history from that day in his own words: "I told Dr. Solaro of Lugano, in whose care I left her, that I expected a return of the convulsions, and in the event of that happening he was to notify to me immediately, when I would return with Mr. Lawson Tait, as the appendages must then be got out at any risk. On Sept. 18th I received a letter from my daughter stating, 'Your worst fears have been realised, the convulsions have returned as bad as ever, and she remains unconscious.' Next morning came a telegram which informed me that four violent convulsions had occurred in thirty hours, and this was followed by another that she was insane. I replied, 'Send to the asylum for help; I leave here to-night with Tait.' I saw him in Birmingham next morning, and he left with me by the next continental express, reaching Lugano on the 22nd. He operated on the 23rd with an incision not over two inches, and removed the appendages from both sides without any apparent difficulty. The operation from commencement to finish occupied exactly nine minutes and a quarter. The patient has had no trouble since; is bright and cheerful; has a better appetite than at any time during the last three years; the expression of the face has entirely changed; the old, haggard, anxious, irritable look has gone, and in the place is a contented, peaceful expression. I can only conclude by saying your skill has saved the reason and life of my wife."

At the operation I found the uterine appendages, as Professor Porro had, densely adherent, both tubes occluded, and contained certainly not more than a teaspoonful each of limpid serum. The patient has had up to the present time no return of her previous symptoms. I can, with such a narrative, only say that it is idle to talk of hydrosalpinx being a harmless condition which may be always left alone.

Birmingham.

FIFTY-FIVE CASES OF OPERATION FOR THE RADICAL CURE OF HERNIA.

BY ARTHUR NEVE, F.R.C.S.E., &c.

As this subject is now being discussed, I venture to summarise briefly the operations in the Kashmir Mission Hospital since 1881.

In that year Dr. Downes (now of Eastbourne) performed Spanton's operation in eight cases, of which one recurred at the time, and I have since seen another with recurrence. In the following year he performed three Spanton's, and three by ligature and excision of the sac (Annandale's operation). Of the latter, one died; of the former, one recurred. In the same year (1882), I performed two Spanton's operations. In 1883 I performed six Spanton's operations, of which one recurred, and two by ligature and excision;

of these latter, one died of shock. In 1884 there were three Spanton's operations, with one recurrence. The instrument used throughout this and following years was a straight shaft with a spiral point, by which the pillars are alternately pierced. I described the operation in the *Edinburgh Medical Journal*, and published full details of the cases in the *Indian Medical Gazette* for 1883, so will not recapitulate my experience. In 1885 I performed four Spanton's operations, with one recurrence after a year; and two other surgeons also operated on two cases, which rapidly recurred. Last year (1886) eleven Spanton's operations were performed, of which one recurred. This year, up to date, eight screw operations have been performed, of which two were followed by reappearance of the hernia. In one the recurrence was sudden and complete, with some pain. On the same day I performed herniotomy, excised the sac, and sutured the pillars. Another case of excision has since been also successfully performed. The total may thus be tabulated: Screw operations, with Mr. Dunnet Spanton's or the author's modified instrument, forty-eight cases (seven of these are known to have recurred); operations with ligature of the neck, and usually excision of the sac, seven (of these two died).

On these cases I will offer but very few remarks. With regard to the only really *radical* procedure, that of removal of the sac with suture of the canal, it is a somewhat severe measure. Without selection of cases, I doubt whether the mortality would be less than 5 per cent. By careful selection of cases it might not exceed 1 or 2 per cent. With only the latter mortality this operation for the radical cure of reducible hernia is justifiable; but the operator ought to avoid exposing old or weakly persons to an operation which is usually followed by more or less suppuration in the scrotum, and which is liable to graver complications. I consider Spanton's operation a less certain cure, but cannot speak positively on this point. During the last year I have usually removed the screw at the time, merely using it as an instrument for suturing the pillars and neck of the sac with silver wire, which has been left in. But this method seems to me less secure than that of leaving the instrument in for a week or until it loosens. This operation appears free from danger to life; in fact, the statistics collected by Mr. Spanton prove it to be so. Like Wood's operation, the success depends on the skilful application of the instrument. There is perhaps a "knack" in it, which many surgeons without considerable practice might fail to acquire. This should tell against the general adoption of the operation, but affords no ground for decrying its actual achievements. It is, moreover, a simple operation, and one in which the beginner is likely to fail from over-caution rather than otherwise, the operation being simply inert. In my first thirty cases it is likely that 20 per cent. recurred; in my next thirty this percentage is likely to be halved. Any who are interested in this subject should refer to Mr. Spanton's papers in the *Medical Times*, 1885, or to my contributions before referred to.

Kashmir, India.

HYDATID DISEASE OF THE CONVEX SURFACE OF THE LIVER,

DISCHARGING INTO THE PLEURA AND AFFECTING IT SECONDARILY.

BY H. HANDFORD, M.D., M.R.C.P.,
PHYSICIAN TO THE NOTTINGHAM GENERAL HOSPITAL.

THE history of the case is shortly as follows:—A man aged sixty-one, a lacemaker, was admitted under my care into the Nottingham General Hospital, in November, 1886, complaining of troublesome cough, slight muco-purulent sputum, and great shortness of breath, especially on exertion. He was well nourished, and had been a strong man, except for some winter cough for the last few years. His present illness had begun three months previously, and he had been sent into the hospital, with a diagnosis of chronic pleuritic effusion, for the purpose of being tapped. He had the signs of a moderate pleuritic effusion on the right side, but the vocal resonance and fremitus were very little diminished. The liver was not much pushed down, neither was it appreciably enlarged or irregular. He was aspirated, and thirty-four ounces of opaque semi-purulent fluid withdrawn. It was highly albuminous, but did not gelatinise on standing, showing the absence of any large amount of fibrine. Under the microscope very few pus cells were found and no hooklets or membranes, or anything suggestive of hydatid origin. The opacity appeared to be due not so much to pus as to the fatty degeneration of insoluble albumen—that is to say, of a highly fibrinous and albuminous exudation. The chest was aspirated twice again, at intervals of about three weeks, and after two months he was discharged practically well. He worked at his trade for six or eight months, and began to get short of breath again and to be troubled with cough in August, 1887. In the end of September I was asked to see him in consultation with my friend Dr. Stafford. The patient was extremely ill, with the right side almost motionless and dull up to the clavicle. He had the most urgent dyspnœa, febrile temperature, and coated tongue. Next day he became an in-patient again, and about fifty ounces of pus were removed by aspiration. This was examined microscopically, but presented no unusual appearance. There were no hooklets and no membranes. Rather more than a week later, when he had somewhat recovered strength, the chest, which had filled again, was opened by a free incision by my colleague, Mr. Wright. The opening was made in the seventh space, a little behind the posterior axillary line. The ribs were so close together that a small portion of bone had to be removed in order to admit a full-sized indiarubber drainage tube. After five or six days numerous hydatid vesicles appeared in the wound and on the dressings. Their true character was verified microscopically by the laminated hyaline appearance of the cyst walls, and by the presence of numerous hooklets. The cysts continued to be discharged almost daily for about a month; but for ten days or more before his death, which occurred from asthenia, the discharge of hydatids ceased. There never had been any noticeable enlargement of the liver. At the inspection a thick-walled, irregular, indurated, suppurating cavity, large enough to contain about six ounces, was found in the convex surface of the liver, chiefly in the right lobe, but partly in the left, immediately below the diaphragm. It communicated by a smooth, rounded opening, that would just admit the index-finger, with the right pleural cavity. In the pleura, at the root of the collapsed right lung, was a single hydatid cyst the size of a walnut. This was the only trace of hydatid left. There was no evidence of there having been any growth of hydatids in the lung, or any extensive affection of the pleura. The majority of the hydatids discharged through the chest wall—they numbered upwards of 100—must have come from the liver through the opening in the diaphragm mentioned above. The disease was cured, with the exception of the one solitary cyst at the root of the lung, but the patient had not strength to enable tissue repair to progress properly.

With regard to the diagnosis, I should say that the dependence of the chest affection on hydatid disease was not suspected till the vesicles were discharged, and then their origin from the liver was thought probable. The only difficulty during life in accepting a hepatic origin for the cysts was the total absence of bile staining. In a case of hydatid disease of the liver in a lad who was under my care in 1879, and which discharged through the lung, the numerous and large cyst walls which were coughed up were all stained of a bright orange-yellow colour. I have kept the patient under observation more or less ever since, and he is in robust health at the present time. With regard to the relation of the pleural effusion to the hydatid disease, I think it probable that the effusion in November, 1886, was due to contiguity, and that the free communication with the pleura was not established till later.

THE LATE DR. HARVEY.—At a special meeting of the County and City of Cork Medical and Surgical Association, held recently, the following resolution was passed unanimously:—"That we, the members of the County and City of Cork Medical and Surgical Association, having heard with extreme regret of the death of Dr. Joshua Harvey, the founder of the Medical Club, and for many years a very active and esteemed member of the medical profession in Cork, beg to convey our deep sympathy to his family on the death of one who stood so deservedly high in the estimation both of the public and his professional brethren."

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

COCAINE IN THE VOMITING OF PREGNANCY.

By FRANK COLLINS, M.R.C.S.

WITH reference to Dr. William Duncan's recent observations on this subject, I send the following case as an additional item of experience.

On Oct. 26th I was called in to consult on the advisability of inducing abortion in a case of continual and distressing vomiting, complicated with uterine hæmorrhage which the usual remedies failed to relieve. The patient was a primipara, aged twenty-seven, between three and four months pregnant. Vomiting began three weeks previously and occurred several times each day, gradually becoming more frequent until three days before I saw her, when it assumed so distressing a character after taking even liquid nourishment that she had kept nothing down for that period. The bleeding began with the straining fourteen days previously, and continued constant, but slight in quantity, though increased with each attempt at emesis. There was a history of delayed menstruation, but none of other disease. The patient was weak and exhausted, but not collapsed, complaining of "uneasiness," not pain, about the lower part of the abdomen. Pulse fairly good. Vaginal examination revealed a tender spot about an inch above the anterior lip of the cervix, and some tenderness of the cervix itself, from which drops of dark blood were exuding. Pelvic organs otherwise normal. With a tracheal sponge-holder I inserted, through a Ferguson's speculum, a plug of wool soaked in a 10 per cent. solution of cocaine to the depth of half an inch in the cervical canal, and retained it there from one to two minutes, afterwards swabbing the lips of the os all round with the same. The patient had vomited food taken some four hours before, and was expecting to reject some beef-tea taken a quarter of an hour before the operation. This did not occur, and all sense of "uneasiness" had disappeared before I left. Liquid food was taken and retained within an hour, and has been taken regularly ever since. The bleeding diminished by degrees, and the third day after the operation had entirely ceased, and the patient was doing well.

Seven days after the operation I learnt that the patient insisted on getting up and doing her household duties the day after the bleeding stopped. This was followed by a copious return of hæmorrhage, shortly succeeded by uterine pains; and the case will now probably terminate in miscarriage. The efficacy of the treatment appears to be emphasised by the patient's folly.

The points which appear to me worthy of notice are the almost instantaneous relief to the distress and nausea, and the absence of recurrence of those symptoms. Has cocaine some permanent action beyond its transient effect of causing local anæmia and anæsthesia?

Adelaide-road, N.W.

RECURRENCE OF SCARLET FEVER SYMPTOMS.

By STAFF-SURGEON FFRENCH MULLEN, M.D.

(Communicated by the Director-General of the Medical Department of the Navy.)

HAVING seen in the THE LANCET of Nov 19th a letter from "M.R.C.S." giving an account of the recurrence of the symptoms of scarlet fever in a child a few days after her discharge from hospital cured of that disease, and the editorial comment that "such cases are undoubtedly rare," I think the following case may be of interest to the profession.

R. C——, aged thirty-five, stoker, presented himself on the evening of Nov. 8th, 1868, at Chatham, complaining of rigors, headache, thirst, and malaise, which symptoms, he stated, had commenced the previous day. The following morning sore-throat appeared, and a bright red rash was uniformly spread over his trunk and extremities. He was immediately sent to hospital, where the diagnosis of scarlet fever was confirmed, and he was retained until Dec. 15th, when he returned to his ship. In the following June (1869) he again suffered from similar symptoms at Portsmouth, and complete desquamation took place. In July (1869), at Portland, the same symptoms recurred, but were milder and of shorter duration. Owing to the improbability of a patient having scarlet fever three times in nine months, the two later attacks were looked upon as a species of erythema, and were treated on board, and though no special precautions were taken, no spread of infection took place.

In this connexion the following case may be worth recording.

G. R——, aged twenty, ordinary seaman, was placed on the sick list at St. Vincent, West Indies, on the evening of Jan. 30th, 1885, complaining of sore-throat, rigors, and malaise; the tonsils were ulcerated and the fauces deeply congested, being of an almost venous hue. Temperature 102°. The following evening a profuse red rash, which did not disappear even on firm pressure, appeared over the whole body, and the temperature rose to 103·6°. The disease ran the usual course; the throat was quite well, and the rash had almost completely faded, save on the inside of the thighs and legs, by Feb. 4th (sixth day), and branny desquamation set in. On this date an eruption of urticaria, but without itching, appeared over the trunk and extremities. It subsided in a couple of days. The patient was isolated on board, every possible precaution being taken. Desquamation was completed by Feb. 17th, on the 19th he suffered from a slight attack of sciatica, and on Feb. 27th he returned to duty. No extension of the disease took place among the crew.

Now this patient had not communicated with the shore from Dec. 9th, 1884, when the ship was at Halifax, Nova Scotia, to the date of his seizure, Jan. 30th, 1885; he had had no washing done on shore, none of his family at home were suffering from scarlet fever (which might have caused it to be conveyed by letter), and I could not find that scarlet fever was present at any of the West India islands visited, so that this was either a case of extraordinarily prolonged incubation (fifty-two days), or it was a species of erythema more severe than has been hitherto described. The eruption of urticaria on the subsidence of the erythematous rash lends support to this view. I may mention that I assured myself of the absence of gonorrhœa, and that the patient had not been taking copaiba, eating shell-fish, &c. The disease ran too regular a course for it to be symptomatic erythema; and so the fact of his having taken two fifteen-grain doses of the salicylate of soda prior to the appearance of the rash would not be sufficient to account for it.

THE MORE FREQUENT USE OF LONG FORCEPS IN LINGERING LABOUR.

By T. WOOD HILL, L.R.C.P., M.R.C.S., L.S.A.

IT is an unquestionable fact that the use of forceps is becoming more frequent, and is answerable for the great amount of relief to many a poor woman in the agonies of labour; so much so, that invariably when a poor creature has once had them used she naturally demands them again. In a highly nervous, excitable woman who dreads the pains of labour, what practice can be more judicious and productive of good than the administration of an anæsthetic and the application of the long forceps, and thus in the majority of cases terminate most cases of lingering labour? From my own practical experience I have seen far greater suffering relieved by such practice than by the old exploded doctrine of allowing nature to perform the task unaided. Certainly in some cases nature will, at a very great expense of acute suffering, terminate its work; not always satisfactorily—ruptured perineum or puerperal troubles may follow. But what is the good of having such scientific instruments at our own command, if we are not to use them in suitable cases? A woman, I maintain, ought not to be allowed to suffer unnecessary pain. Why should she? It has been my pleasure to help many a poor creature out of her trouble by the timely use of the long forceps; in primiparæ their proper use is even more satisfactory. When I look back at the cases of lingering labour that have fallen to my lot, a shudder comes over me to think I was not qualified to help nature. The more I see of difficult labour, the more certain am I that it is our bounden duty as medical men to minimise suffering; use the forceps and save suffering

Earl's-court-road, W.

SPINA BIFIDA, ACCOMPANIED WITH CONGENITAL MALFORMATION OF THE CERVICAL PORTION OF THE SPINAL CANAL.

BY JOHN H. LOVE, M.R.C.S.

I WAS called suddenly to a case of labour accompanied with flooding. I found the feet born, and the mother flooding. I delivered her of a female child, which was dead, and had its bowels protruding and the umbilical cord gangrenous. I immediately removed a very large placenta, when all hæmorrhage ceased. I found the spine of the child bifid from the second to the seventh cervical vertebra. The tumour (which had burst) surmounting the bifid portion contained a dirty chocolate-coloured fluid mixed with blood; the edges of the tumour were bluish, and had a congested appearance. The spinal cord and nerves were adherent to the walls of the tumour. The bodies and processes of the second, third, fourth, fifth, and sixth cervical vertebræ were deficient. The neck of the child was short, bringing the child's chin close to the sternum. The face and conformation of the head resembled that of a mask. It appears that about a fortnight previously the mother had sustained a great fright; for a son of hers (walking in his sleep) fell downstairs, and was found by her with his feet and legs stretched out, and his head, as it were, pushed down between his shoulders, presenting very much the appearance of this fœtal child when born.

Wolverhampton.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARY'S HOSPITAL.

POSTERO-PARIETAL DEPRESSED FRACTURE; HIGH TEMPERATURE; TREPHINING.

(Under the care of Mr. PAGE.)

THE injury to the skull was in this case behind the motor region, and the only symptom, as far as could be told indicative of cerebral disturbance was elevation of temperature, which alone led to the use of the trephine, and which speedily subsided after the depressed bone had been raised. We are indebted to the dresser, Mr. C. Graves, for the notes.

T. P——, a butler, aged thirty-six, said to have been fond of port wine, and some time ago to have been "queer in the head," slipped on Dec. 31st down some doorsteps and struck the back of his head against the scraper. He was unconscious for a moment, and then got up and walked by himself to St. Mary's Hospital. A jagged and bruised semi-lunar wound, an inch long, was found in the right parieto-occipital region, at a point midway between the occipital protuberance and the parietal eminence, about half an inch above the lambdoid suture; and corresponding with the wound, in direction downwards and outwards, there was a small rent in the pericranium, with a line of fracture, and distinct, though very slight, depression of the bone. The wound was cleansed and dressed by the house-surgeon, Mr. Lloyd, who, from the trivial degree of visible depression and the absence of any cerebral symptoms, deemed it unnecessary to adopt further measures. This was about 6 P.M. At 11 the same evening the temperature was 101·2°, and on the following morning (Jan. 1st), when the man was first seen by Mr. Page, it had risen to 104°. Other than the fact that he was perhaps a little drowsy or apathetic in his manner, there was no suspicion of cerebral or meningeal injury. He had no pain, his pulse was 70, he expressed himself as being perfectly comfortable, and asked for more food. The high temperature, however, pointed to something amiss, and Mr. Page decided to trephine at once should no possible cause be found for it in the appearance of the wound. Exposure of the wound revealed a somewhat sloughy and shreddy, but yet quite sweet, condition of the deeper parts, possibly sufficient, it was thought, to account for the temperature. The wound was therefore again very thoroughly cleansed, brought once more into apposition, though without suture or strapping, and dressed with iodoform and wood-wool, it being the intention to trephine on the morrow should the temperature continue high. The temperature rose that afternoon to 105°, but before the evening it had begun to fall, and at 10 the next morning it was down to 99·4°. At the same hour on Jan. 3rd it was 99°, and the man himself felt perfectly well. He had no pain, but he still lay in the same dull, apathetic state, which further inquiry and knowledge of him proved to be merely his habitual manner. All looked well about the wound. On the afternoon of the 3rd the temperature again began to rise. At 6 P.M. it was 102°, at 10 P.M. 103·6°, and at 2 A.M. on the 4th it was 104°. The nurse thought he was "decidedly more drowsy," but he had no pain. There was no constitutional disturbance whatever, and all he complained of was insufficiency of food. There being clearly nothing now in the condition of the wound to account for the high temperature, Mr. Page decided to expose the bone more thoroughly and to raise any depressed portion which he might find. Accordingly, the head having been shaved and made perfectly clean by antiseptic washing, on the afternoon of the 4th he raised a large flap by semilunar incision, which included as its middle third the original laceration. The line of fracture was then found, as it had been feared it might be, considerably greater than it had formerly appeared, extending downwards and outwards in an irregular manner for three-quarters of an inch beyond the depression at first seen, and then returning on itself at a lower level in the form of an irregular V, lying on its side. At the apex of the V the depression was naturally greater than elsewhere; and it being found impossible to lever it up, an opening had to be made by the trephine, but the depressed bone was so tightly wedged down that even then it could not be raised, and a corner had to be sawn across and another portion removed. The resultant opening was of irregular shape—some three-quarters of an inch long by half an inch wide, the centre of it being midway between the occipital protuberance and the parietal eminence, four inches and three-quarters from the external meatus, an inch and a half from the middle line, and two inches and a half above a line drawn from the meatus to the occipital protuberance. The opening was therefore entirely in the parietal bone, and was situated about the posterior part of the temporo-sphenoidal lobe. The dura mater was found uninjured and healthy; and although the pulsation to be felt was but feeble and distant, probably from the position of the part exposed, it was thought wholly unnecessary to make an opening in it, there being no suspicion of subdural or subarachnoid pus. The parts were thoroughly cleansed with perchloride solution, the pericranium was restored to its natural position, a drainage tube inserted, and the scalp sutured into accurate apposition. The operation took nearly an hour, for three times had artificial respiration to be resorted to, because of failure in pulse and breathing. The temperature at 10 P.M. on the day of operation was 101·2°, and at 2 A.M. on the 5th had gone up to 104°; but thereafter it fell steadily to 100°, at which level it remained during the day. On the 6th it was down to normal, with one exception at 10 P.M., when it was 100·4°; but from this time onwards there was no further rise, nor did anything interfere with the immediate closure of the wound in those parts of it where recent and clean incision had been made. The lacerated part closed by secondary union, and his long stay in the hospital, until March 28th, was due to the continuance of slight discharge, which came from one corner, and which was kept up, not by any necrosis of bone, but by the irritation of a bad piece of catgut with which some vessel had been tied. His stay had this advantage, that it gave the opportunity of frequent examination, and of watching for the development of any symptoms, sensory or motor, of brain lesion. Special regard was paid to his sight, but his optic discs, his fields of vision, and colour sense were throughout normal; his mental faculties were not impaired, no anæsthesia was ever detected, and the senses of taste and smell were perfect, although on March 6th it was thought that that of smell was not quite so good on the left side as upon the right. The difference, however, was not so marked as to lead to any suspicion of central mischief.

Remarks by Mr. PAGE.—This case is thought deserving of record, not for any light it throws on localisation of function in the convolutions of the brain, but as an instance

of disturbance in the cerebral equilibrium manifesting itself by elevation of temperature. The sequence of events shows that there was nothing in the wound to account for the rise, and it is most unlikely that any inflammation of brain substance, such as is found when there is surface suppuration, could have disappeared so rapidly after the pressure of bone was removed. The membranes were healthy, and so in all probability were the convolutions beneath. The depression of bone was insufficient to injure these subjacent structures; but, nevertheless, it was enough to affect the chief nerve mass in such a way as to upset the equilibrium which in health, and in a healthy state of these centres, subsists between heat adjustment, heat production, and heat loss. To follow the hypothesis of Dr. MacAlister in his Gulstonian Lectures, there was disturbance in the thermotaxic nervous mechanism, whereby a high temperature was developed, yet without fever. Speaking of this thermotaxic mechanism, he said that no one, as far as he was aware, had been able to say it was at this spot or at that. "Least and last developed, its organisation is necessarily the most imperfect," as it is necessarily the first and most easily disturbed of the three parts—thermolytic, thermogenic, and thermotaxic—into which he divides the thermal nervous system. The high temperature in the case here recorded may have been, it is thought, of this kind, and, if the interpretation be not erroneous, makes the case worthy of some attention. Suffice it here, in the inevitable uncertainty there must be upon this point, that a fracture of the skull in the posterio-parietal region, with an amount of depression which by itself would hardly have called for operation, without visible injury to the parts beneath, was seemingly the cause of a high temperature, that that high temperature gave the sole indication for trephining, and was insomuch in all probability the means of saving the patient from more than one form of future danger.

When last seen (June 18th) the man was quite well, but more recent efforts to find him have been unsuccessful.

ST. BARTHOLOMEW'S HOSPITAL, CHATHAM.

FOUR CASES OF AMPUTATION THROUGH THE THIGH.

(Under the care of Mr. NANKIVELL.)

FOR the following notes we are indebted to Dr. R. T. Bowden, assistant resident surgeon.

CASE 1. *Compound fracture of both thighs in a man aged forty-seven, from railway accident, with compound depressed fracture of skull and other injuries; amputation through upper third of both thighs; secondary hæmorrhage and ligature of the femoral artery in the stump; recovery.*—J. M——, aged forty-seven, a navvy, was run over by a train on July 30th, 1887. He was admitted into the hospital an hour and a half after the accident, when he was found in the following condition. The right thigh had been completely severed from the body by an oblique wound passing through the lower half of the femur; the left leg was in a hopeless condition, the whole tibia being crushed, while there was an extensive lacerated wound laying open the knee joint, and the femur was fractured above the condyles; there was also a compound depressed fracture of the skull, involving the frontal and parietal bones on the right side, and the soft parts over the sacrum were extensively bruised. The general condition of the patient was bad, he was very much exhausted from pain and loss of blood, with small quick pulse, but was quite conscious.

Although the case seemed hopeless it was thought right to give him what little chance could be afforded by operation. Accordingly ether was administered, and Mr. Nankivell amputated both thighs through their upper third, by anterior and posterior skin flaps, with circular division of muscles; the stumps were dressed with eucalyptus and iodoform oil. During the operation, which lasted fifty minutes, the patient's condition improved considerably, the stimulating effect of the ether being very marked. No attempt was made to elevate the depressed fragments of the skull, as the depression was not great and there were no head symptoms; the wound was merely united by a few stitches and dressed with eucalyptus oil. In the evening he was very sick, and half a grain of morphia was given hypodermically. The following notes were subsequently taken:—

July 31st.—Slept fairly well last night. Feels comfortable. Stumps dressed. Temperature this evening 102·6°.

August 1st.—Doing well. Slept last night after a hypodermic injection of morphia. Stumps quite healthy. Temperature 100°.

2nd.—Stumps dressed; looking well. Complains of severe pain in the lower part of the back. Skin of right buttock red and very tender. Ordered a water pillow. Temperature this evening 99·8°.

5th.—A bed-sore has formed over the right buttock, where the skin was injured at the time of the accident. Dressed with zinc ointment.

12th.—Stumps doing well. The greater part of both wounds has healed by first intention. Stitches taken out. Bed-sore healing slowly.

22nd.—A large abscess which had formed over the sacrum was opened this morning. Stumps almost healed.

Sept. 5th.—This morning slight hæmorrhage commenced from the left stump; it proceeded from a cavity on the outer side of the stump, which had never healed. The bleeding was stopped without difficulty by a compress and bandage.

6th.—Hæmorrhage recommenced, and as it was much more severe than on the previous occasion, ether was given, and the stump being laid freely open, the femoral artery was exposed, with a small hole in it, about an inch above the lower end, from which the blood proceeded. A ligature placed just above this point did not arrest the hæmorrhage, as a large branch was given off a little lower down, and the collateral circulation had been fully established, so the vessel was tied above and below the opening, and divided between the ligatures. The wound was united by stitches, and dressed with eucalyptus and iodoform oil.

From this time the patient progressed satisfactorily. A large bed-sore formed over the sacrum where the skin had been injured at the time of the accident, and gave some trouble, but by the use of water pillows and careful dressing it healed slowly. He is now (Dec. 1st) practically well, and will be leaving the hospital very shortly; had it not been for a small abcess which formed in the left stump, he would have gone out some weeks ago.

CASE 2. *Compound fracture of the left femur and punctured wound of the right thigh; amputation through the upper third of the left thigh; secondary hæmorrhage from the right thigh, and ligature of the femoral artery; recovery.*—C. B——, aged sixteen, was run over by a trolly on July 28th, and was admitted into the hospital an hour afterwards. On the left side there was a compound fracture of the femur into the knee joint and lacerated wounds of the thigh; there was also a second fracture of the femur a little above the middle. On the right side there was a punctured wound extending completely through the fleshy part of the thigh, and passing near the femoral artery; the skin of the calf was almost completely torn off, exposing nearly the whole of the gastrocnemius muscle, and the first metatarsal bone was dislocated from the internal cuneiform.

Ether was given, and the left thigh amputated through its upper third. The stump was thoroughly washed out with carbolic lotion (1 in 20) and dressed with antiseptic gauze. The wounds of the right thigh and leg were carefully united by stitches and dressed in a similar manner, and the dislocation of the metatarsal bone was reduced without difficulty. In the evening thirty-five minims of liquor morphiæ were given, and the patient had a good night.

A few days afterwards the skin of the right calf began to slough and a large healthy ulcer was left. With this exception all went well until August 9th (twelfth day), when, without any warning, violent hæmorrhage suddenly commenced from the wound in the right thigh. A tourniquet was at once applied by the nurse, which stopped the bleeding; but as soon as this was slackened blood again came out in jets. Ether was therefore given, and the wound laid freely open, when the femoral artery was exposed; in one part of its course a small hole could be seen, from which blood spurted whenever the pressure of the tourniquet was removed. The vessel was tied with catgut above and below the wound, and divided between the ligatures; the external wound was sewn up, and a drainage-tube inserted. The patient after this recovered steadily, the large ulcer on the right calf healed slowly under the influence of Martin's bandage and frequent applications of solid nitrate of silver, and on Nov. 2nd he was discharged from the hospital.

CASE 3. *Gunshot wound of the head of the tibia opening the knee joint; amputation through the knee joint; recovery.*—E. A——, aged thirty, a labourer, was accidentally

shot in the leg on Sept. 7th, and was admitted into the hospital five hours afterwards. The external wound was on the outer side of the right leg, about three inches below the knee joint. A thorough examination under ether showed that the upper end of the fibula was blown away, while nearly the whole charge of shot had lodged in the head of the tibia; numerous small holes, caused by isolated shot, surrounded the main wound. It seemed probable that the joint was opened, for a distinct grating sensation could be felt on moving it, and a bystander stated that some watery fluid (synovia) ran out immediately after the accident. A large number of shot were extracted and an artery, probably the peroneal, that had been wounded, was tied. The wound was stuffed with lint soaked in eucalyptus and iodoform oil, and a back splint put on.

For a few days the man progressed favourably, but then suppuration occurred in the joint, and amputation was rendered inevitable. Accordingly, on Sept. 12th Mr. Nankivell amputated through the knee-joint, making a long posterior flap, and removing the patella. Two drainage tubes were inserted and antiseptic dressings put on.

The subsequent history of the case presents no point of special interest; the wound healed rapidly, though recovery was somewhat delayed by an abscess which formed in the stump; but on Nov. 8th the patient was able to leave the hospital.

CASE 4. *Compound fracture of the femur into the knee joint complicated by delirium tremens; amputation of thigh; death.*—H. B——, aged fifty-six, a railway porter, was admitted on Aug. 30th, having slipped on the pavement and fallen half an hour before. There was a very oblique fracture near the lower end of the right femur, and the sharp edge of the upper fragment had made a small wound through the skin. The fracture seemed to extend right into the knee joint, which was somewhat distended with fluid.

Ether was given, and by means of extension and manipulation the fragments were got into fairly good position, and a long splint was put on, with extension, and the wound dressed with compound tincture of benzoin.

The next day the man pulled the splint off, and it was reapplied. A few days later he became wildly delirious, tore the bandages off, and made frequent attempts to get out of bed. A liberal diet without any stimulants was ordered, while chloral and opium were given freely; but for nearly a week the greatest difficulty was experienced in preventing him getting out of bed, and it was absolutely impossible to keep the fragments at rest. The joint had become acutely inflamed, but the condition of the patient forbad amputation. On Sept. 12th, however, there was a slight improvement in his general condition, and the thigh was amputated through its lower third. He bore the operation well, and for some days seemed to improve a little, lying quietly in bed and talking rationally; then the delirium returned; chloral was given, but with very little effect; paraldehyde was also tried, but seemed almost useless. He then gradually sank, and on Sept. 22nd he died.

Remarks.—The above cases all occurred within a space of six weeks, and they illustrate several points in connexion with the surgery of the lower extremity. Case 1 is very interesting. It is usually considered that amputation through the upper part of the thigh for railway accident is almost surely fatal; but here we have a recovery after amputation through the upper third of both thighs, and the case is the more remarkable on account of the age of the patient and the severe injuries he received to the head and back. It would be interesting to know if any similar cases are on record. The secondary hæmorrhage was apparently due to the ligature having been placed just below the point where a large branch was given off, so that not sufficient space was left for the formation of a clot. In Case 2 the injuries were of a somewhat similar nature, though less severe, and the age of the patient was much more favourable for recovery. It is certainly unusual to have an amputation of the thigh on one side and ligature of the femoral artery on the other. In Case 3 it was not quite certain whether the joint was involved or not, but in any case primary amputation was contra-indicated at the time of admission owing to the exhausted condition of the patient. It was five hours after the accident before he reached the hospital, and during that time he had lost a large quantity of blood. Any immediate operation would probably have been fatal, while secondary amputation proved most successful. Case 4 shows the difficulty of treating a bad fracture when complicated by delirium tremens; at first the skin wound was very small indeed, but the struggles of the patient soon made the whole end of the upper fragment protrude, rendering amputation inevitable.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Causes of Hypertrophy of Skull in Rickets, Mollities Ossium, Syphilis, and Osteitis Deformans.—Neurotomy of Third Division of the Fifth Nerve at the Foramen Ovale.

AN ordinary meeting of this Society was held on Tuesday last, Mr. G. D. Pollock, F.R.C.S., President, in the chair. A few words expressive of sorrow and regret on the decease of Sir George Burrows were given from the chair.

Mr. W. ARBUTHNOT LANE read a paper on the Factors that determine the Hypertrophy of the Skull in Mollities Ossium, Osteitis Deformans, Rickets, and Hereditary Syphilis. The author called attention to the desirability of separating the direct from the indirect effects of morbid conditions or diseases, especially in the case of those above enumerated. He referred to papers in the *Journal of Anatomy and Physiology* and in the Guy's Hospital Reports for 1887, in which he had explained the mechanical factors that determine the character of the deformities of the bones of the lower extremities in mollities ossium, rickets, and osteitis deformans. He had shown that these deformities are preceded and produced by a yielding of the sacrum in such a way that the lumbo-sacral articulation is displaced forwards and downwards from its normal relationship to the iliac bones and hip joints. This alteration in the position of a joint through which the whole superjacent weight of the head, trunk, and upper extremities is transmitted from that normally occupied by it, necessitates, when the erect posture is assumed, that the hip and knee joints be flexed, and a consequent tendency for the long bones of the leg to yield in a vertical antero-posterior plane. He had also demonstrated the factors that determine the yielding of these long bones in a vertical transverse plane. He obtained his first clue to the conclusions at which he had arrived from a study of the changes that the skeleton undergoes in old age, and of the laws governing them. He attempted to prove that the factors that determine the thickening of the skull in mollities ossium, congenital syphilis, rickets, and osteitis deformans are purely mechanical, and that the hypertrophy is not the direct product of the morbid condition or disease, but a vigorous attempt, and sometimes the only attempt, on the part of the organism to retain its most important organ as free from the direct result of the disease as possible. He referred to a paper in the Transactions of the Pathological Society, 1884, in which he had disputed Rindfleisch's theory of the processes which ensue in the skull in mollities ossium, and detailed the arguments by which he arrived at his conclusions—namely, that in mollities ossium the thickening of the skull is dependent upon an endosteal, and later upon a periosteal, deposit of decalcified lamellæ of fibrous tissue, this being not a direct product of the condition, but an effort on the part of the organism to oppose and limit the baneful influence of the process of decalcification in so far as it affects the cranial vault. He applied the same arguments to the analogous condition of the skull present in osteitis deformans, rickets, and congenital syphilis, with the object of showing that in them also the thickening of the skull was (in a similar manner) a process of repair and not a direct result of the disease.—The PRESIDENT referred to cases of curving of bones, and said that the new formation of bone took place on the concave side and thus strengthened the shaft; perhaps the new growth of bone in the convexity of the skull was of a somewhat similar nature.—Dr. ANGEL MONEY said that the explanation offered by Mr. Lane was ingenious but teleological, for we do not know that nature is so kind as to provide for all accidents.—Mr. HOWARD MARSH considered the paper suggestive. He referred to the strengthening of curved bones by the formation of buttresses of new bone in the concavity of the curve as perhaps due to an actual irritation. It was curious to observe how rickety bones became excessively thickened and how curved bones ulti-

mately become straight.—Mr. LANE, in reply, thought that a mechanical explanation was not a teleological one.

Mr. BLAND SUTTON contributed a case of Neurotomy of the Third Division of the Fifth Nerve at the Foramen Ovale. This paper contained the details of a case in which a man, aged sixty-four, suffered from frequent and severe attacks of epileptiform neuralgia, due to implication of the branches of the inferior maxillary division of the fifth nerve in a mass of epithelial cancer of the cheek. An operation was performed, and the third division of the fifth nerve divided as it issues from the skull. The difficulties encountered in this procedure were detailed, which ended in the subsequent ligature of the common carotid artery. Notwithstanding this, and in spite of the man's age, he recovered from the operation, was deprived of the neuralgic seizures, and lived in comparative comfort until he succumbed to his cancerous malady eight months later.—Mr. WALSHAM thought that the operation should not be lightly undertaken. He had stretched many of the branches of the inferior maxillary division of the fifth nerve. The inferior dental, the gustatory, the buccal, and the auriculo-temporal were the branches he had stretched, the first one six times. Stretching and not division should be employed; even in excision the nerve ends might grow together again. Stretching, though efficacious for some time, might in some cases not be permanent. He had removed Meckel's ganglion on one occasion, but this proved ineffectual.—Mr. HOWARD MARSH asked what artery was supposed to have been the source of the bleeding for which the common carotid artery was tied. In many cases ligature of the external carotid would be sufficient.—Dr. T. N. PEARSE asked what influence was exercised ultimately on the malignant growth by the division of nerves.—Mr. BLAND SUTTON said occasion for such an operation would rarely arise. The cancer had already implicated the muscles of mastication, so there was no need to pay attention to the motor nerves. The lingual nerves were often divided for carcinoma of the tongue. The internal maxillary artery was divided. Malignant growths possessed no nerves, and were not under the domination of nerves. Perhaps the ligature of the artery diminished the growth of the cancer.

CLINICAL SOCIETY OF LONDON.

Acute Enlargement of the Thyroid Gland in a Child.—The Surgery of Hydatid Disease of the Liver.

THE last ordinary meeting of the year of this Society was held on the 9th inst., Dr. W. H. Broadbent, F.R.C.P., President, in the chair.

Dr. THOMAS BARLOW read a case of Acute Enlargement of the Thyroid in a Child. The case was that of a boy aged three, previously healthy, and just recovering from a slight attack of erythema nodosum. The day after he had been taken out of doors he had a little nasal catarrh, and complained of pain in the neck. A slight enlargement of the thyroid gland was found. The whole gland was involved, but the left lobe more than the other parts. The enlargement increased, and gave rise to much pain and considerable dysphagia, and was attended with pyrexia as high as 103°. The acute phase lasted four days, and the total duration of the enlargement was about a fortnight. Great relief was obtained by the application of a single leech over the centre of the swelling. After the subsidence of the fever there was very great anæmia and some tendency to collapse, but the boy made a complete recovery to health after three weeks stay at the seaside. A summary of the literature of the subject was given in regard to acute enlargement of the gland as distinguished from goitre strictly so called. Besides the idiopathic, traumatic, and metastatic forms described by Lucke, reference was made to the epidemic variety recorded in connexion with French garrisons, and to thyroiditis occurring as a complication or sequel of acute and subacute rheumatism, and also of ague. The present case, from the fact that it succeeded upon erythema nodosum, might be considered to belong to the rheumatic variety, but no other rheumatic phenomenon was observed, and its severity was greater than that of the recorded rheumatic cases, the duration of which in their acute phase was not longer than forty-eight hours. On the whole, it seemed best to place the present case provisionally in Lucke's idiopathic group, and to accentuate its association with slight nasal catarrh and sequence on exposure to cold when in an anæmic condition.—Dr. STEPHEN MACKENZIE knew of a case. The patient was a young man of weakly health, but not really ill, since he attended a racecourse on the day of his sudden death, which resulted from an acute enlargement of the thyroid pressing on the trachea; a recent hæmorrhage into the thyroid gland and large white kidneys were found at the necropsy.—Mr. BERRY had seen a great number of such cases, and chiefly on the Continent—in Auvergne and in Switzerland. He had seen one in South Wales in a boy aged fourteen; the enlargement was rapidly fatal. A second case occurred in Wiltshire, in the person of a young girl who died from dyspnœa rather suddenly after a few weeks. In a similar case at Reading, also in a boy aged fourteen, he had secured the thyroid gland for the Royal College of Surgeons' museum. The occurrence of these fatal cases at puberty was a noteworthy point. Of twenty-seven cases in which the acute enlargement caused death, and in which no opening except tracheotomy was attempted, twelve occurred between the ages of thirteen and sixteen. Enlargement of the thyroid, not fatal, could, of course, occur at any age, sometimes very early, and even congenitally. The earliest age at which he had seen it was two years and a half. The relationship of acute thyroid enlargement to rheumatism was interesting; he had observed a case in the course of chorea; treatment with arsenic was followed by a cure. Although females were most frequently affected with goitre, still these fatal cases were as common in males as females. Of thirty-two cases, seventeen occurred in girls and fifteen in men. He asked why Dr. Barlow had come to the conclusion that in his case the enlargement was evidently not of the same nature as ordinary goitre; the microscopical changes were similar in all cases examined.—Dr. ANGEL MONEY considered that rheumatism was a cause of acute thyroid enlargement running a similar clinical course to the other manifestations of rheumatism. He related a case of a young lady in whom arthritis, erythema, and heart disease had occurred. He contended that in the rapid onset and rapid subsidence, with absence of chronic enlargement, we had characteristics which distinguished these idiopathic and rheumatic cases from ordinary goitre.—Dr. BARLOW, in reply, was interested in Mr. Berry's information, but drew attention to the distinction between cases such as he had described, in which pyrexia occurred and the thyroid swelling ran through a definite cycle and subsided completely, and ordinary cases of goitre in which more or less chronicity obtained.

Dr. COUPLAND read notes of a case of Hydatid Cyst of the Left Lobe of the Liver, which was radically cured by operation. The patient, a tall and pallid youth, aged seventeen, was admitted into the Middlesex Hospital on Jan. 22nd, 1887. For two years he had been getting weak and suffering from constipation, and for three months had noticed in addition a small and rather tender swelling in the upper part of the abdomen. Beyond his lassitude and somewhat hypochondriacal tendency, there was nothing special in his general condition. In the epigastrium there presented a hard nodule, the size of a nut, slightly tender, apparently connected with the left lobe of the liver, with which it moved freely on inspiration. The cardiac pulsation was also transmitted to it, especially during expiration. The liver was not enlarged; there was no jaundice. The patient remained under observation for nearly two months, without any failing of his general health, or any apparent change in the size or character of the small swelling. The diagnosis seemed to rest between a stationary innocuous growth or a shrivelled obsolete hydatid cyst, and exploration was decided on, with the view as much of relieving the patient's anxiety as of clearing up the diagnosis. Mr. Gould performed the operation on March 24th, and a hydatid cyst of the size of an orange was found embedded in the left lobe of the liver, projecting mainly on the posterior surface, but also to a slight extent on the anterior, where it formed the nodule previously observed. The cyst was punctured, and clear hydatid fluid containing numerous scolices evacuated. The cyst wall was then firmly stitched to the peritoneum, the abdominal parietes freely incised, and a drainage tube inserted. The case did well, and on April 3rd the collapsed hydatid was extruded; it contained two or three small daughter cysts free within it, besides having its endocyst thickly studded with scolices. Two days later the tough and fibrous adventitious cyst wall was also extruded. The cavity rapidly granulated, and the patient left the hospital on the 28th for a convalescent home. When seen a month later he was in excellent health. Thus the

exploration in this case resulted in the radical cure of the disease, the cystic nature of which it was not possible to determine by ordinary methods. The very solid nature of the presenting nodule prevented any recourse to the aspirator prior to the operation, whilst the lad has been saved the risks of rupture and suppuration by resorting to the exploratory incision in preference to leaving the case alone as one of "abdominal tumour of uncertain nature." Hydatid cysts are far less common in the left than in the right lobe of the liver, and it is rare for one to be treated by free incision in so early a stage. Although doubtless simple puncture might have sufficed to have lulled the parasite, there can be no question of the advantage of total eradication, if, as such a case seems to show, it can be made with almost equal impunity.

Mr. EDMUND OWEN read a case of Hydatid Tumour on the Upper Surface of the Liver successfully Tapped and Drained across the Pleural Space. A married woman, aged thirty-four, who was born and had lived all her life in London, came under Dr. Broadbent's care in May, 1886, on account of pains in the region of the right hypochondrium, and constant sickness. There was great fulness in the region of the liver, with dulness on percussion, which reached from the fourth rib nearly to the umbilicus. The right lung was greatly elevated and compressed. The hepatic tumour was smooth and hard, and gave no wave on impulse; it did not move with respiration, nor with any change of the patient's position. Aspiration removed thirty ounces of clear fluid, which contained no hooklets. In June another tapping was made, but with no result. In July, as the tumour was increasing, it was again tapped in the seventh space, sixty-eight ounces of bile-stained fluid coming away. This contained an abundance of hooklets. In the beginning of 1887 the patient was again admitted into the hospital. The tumour had increased, and there was danger of the cyst bursting into the thorax. Several aspirations were performed, with fairly satisfactory results. It was decided that the hydatid cyst, which was completely hidden behind the lower ribs on the right side, and was probably occupying the upper surface of the right lobe of the liver, must be incised and drained. On Feb. 14th this was done by making an incision in the eighth intercostal space, opening the pleural cavity. Air rushed freely in; the finger, introduced, readily felt the diaphragm, which was bulging up along the inner surface of the chest wall, but the lung itself, completely collapsed, could not be reached. The phrenic pleura was then incised, and with it the diaphragm. The finger, passed through the diaphragm, came at once upon the tense cyst, from which a considerable amount of fluid was withdrawn by aspiration, so that some of its surface might be dragged through the opening in the diaphragm and up to the skin wound. There it was fixed by four hare-lip pins, so that the wounded phrenic pleura might become glued to the wounded costal pleura, and that the cyst might be subsequently incised and drained without risk of leakage into the pleural space. The wound was dressed with wood-wool pads. On the fourth day (the patient's temperature never having reached 100°) the dressings were removed, and the cyst was incised. Bile-stained fluid escaped, and with it pieces of cyst wall, like rotten washleather. A large flanged drainage tube was inserted, and daily the cyst was washed out with warm iodine water, large pieces of cyst wall escaping. The woman made a complete and uninterrupted recovery. The pneumothorax gradually disappeared, as did also a slight effusion of fluid into the chest, and when Dr. Broadbent saw the patient a short time since she was well and fairly strong, whilst the lung had descended to its proper level. He alluded to a case in which Mr. Godlee a few months later had traversed a healthy pleural space to evacuate a lung abscess. In the latter case sutures had been employed to stitch the margins of the wound in the phrenic pleura to those of the wound in the costal pleura, but Mr. Owen was of opinion that hare-lip pins were more handy than sutures, and quite as effective for the purpose, and he would prefer them to sutures if ever he had to fix the lung to the chest wall, before proceeding to deal with a suppurating pulmonary cavity. It would be an interesting question as to how long it would take for the wounded and approximated pleural surfaces to become securely fixed by adhesive inflammation; perhaps it would be an affair of hours rather than of days. The tolerance with which the pleura submitted to the intrusion, the rapidity with which absorption of air and inflammation effusion from the space occurred, and the perfect manner in which the lung resumed its function after long-continued compression and after operation, were important and cheering features in the case, and offered further proof, were that needed, that the healthy pleura was as amenable to surgical trespass as was the synovial membrane of the knee joint or the peritoneum itself.

Mr. TREVES read a case of Extra-peritoneal Rupture of a Hydatid Cyst of the Liver. The patient, a married woman aged twenty-one, was "hugged" by her husband, who seized her round the waist and lifted her three times from the ground. She was immediately seized with intense abdominal pain, became very faint, and was sick. For thirty-six hours she was unable to lie down, and would not allow her clothes to be removed. Twenty-four hours after the injury a swelling made its appearance under the ribs of the right side. This swelling in time extended to the left of the median line. It was dull on percussion, but did not fluctuate. It was not affected by posture, was evidently below the subcutaneous tissues, and was not intra-muscular. The case was diagnosed to be one of subperitoneal hæmorrhage. No bruising was apparent, and no ribs were fractured. The patient had enjoyed good health, had never had a day's illness, had not suffered from jaundice, and had had no abdominal swelling. The tightness of her stays served to prove the last point. The swelling diminished at the end of a month. It now was more defined, was under the right ribs, and about the size of a child's head. It fluctuated, and could not be separated from the liver. The application of pressure, in the form of Martin's elastic bandage, caused a rise of temperature on each occasion of its employment. At the end of the second month the patient had become emaciated, and the swelling was very prominent. The tumour was incised close to the margin of the ribs. Hydatid fluid escaped, suppuration supervened, and the patient died, greatly emaciated, three months from the time of the injury. The necropsy showed that a hydatid cyst had formed in the posterior part of the right lobe of the liver close to the diaphragm. This had been ruptured by violence. The fluid had found its way into the subperitoneal tissues of the anterior abdominal wall. On the development of a second cyst—the one incised—the extravasated fluid had receded. The hepatic tissue of the right lobe was almost wholly destroyed. The case affords an example of extra-peritoneal rupture of a hydatid cyst of the liver.

Dr. ANGEL MONEY related a case of empyema due to hydatids that had been under his care at the Chest Hospital, Victoria-park. The patient spat up a translucent, jelly-like substance and laminated membrane with a great quantity of pus. Mr. Macready was called in, and excised a portion of the ninth rib; a large cavity was found in which abundance of hydatids existed, and were discharged at the operation to the amount of two large basinfuls. The hole in the diaphragm leading into the hydatid cyst in the right lobe of the liver was easily felt. A perfect recovery ensued.—Mr. GODLEE drew attention to the difference in the doctrine of treatment in this country and in Australia. In the latter country surgeons found aspiration to be sufficient, whereas in England subsequent operation was often necessary. He described various methods of procedure which could be employed, and expressed an opinion in favour of drawing the sac out, aspirating, and then extirpating it.—Mr. HARRISON CRIPPS had treated three cases. The first one by simple aspiration, which had to be repeated in a few months when pus was found, but the patient did well. Trocar and drainage were employed for the second case, and with success. The third case was explored as an obscure abdominal tumour; the hydatid was found, and its sac opened, a pint of pus escaping, after which the sac was removed entirely. Another cyst was discovered opening into the first; this was also opened up and removed, with a good result. In suppurating cysts it was best to open and remove the cyst wall.—Dr. DUFFIN had had two cases of hydatid in the left lobe of the liver. He did not believe in removing much fluid by the aspirator, but only enough to lessen the tension of the sac. In the first case, which happened in a girl, aspiration alone was successful. In the second, in a woman, the cyst suppurated and a free incision had to be made, when the numerous daughter cysts gave rise to some difficulty, but ultimately the case did well. In ordinary cases he would draw off only half an ounce if the cyst contained about thirty ounces. A secondary enlargement often followed, and then the fluid became albuminous. Really nothing

should be done for this secondary swelling, at least for some time, because gradual absorption was the usual consequence. If the swelling persisted for a long time, then further interference would become necessary. The second puncture was more dangerous and apt to set up the very thing which it was our object to avoid.—Mr. BARKER pointed out that in Russia, where cases of hydatid cysts were comparatively common, opinion was greatly in favour of performing the operation in two stages. He mentioned one surgeon who had not had a death in operations so carried out, whereas he had lost two patients by emptying the sac at once. He suggested that corroborative evidence on this point would be very useful.—Mr. HOWARD MARSH related the case of a boy where he had cut down on the cyst and sutured it to the margin of the abdominal wound. Some weeks later he opened the cyst, and the lad had done remarkably well. In another case at St. Bartholomew's Hospital he had sutured the sac to the wound and left it for five or six days, and he felt very strongly that that was the better course to pursue. He said that it really did not amount to making two operations of it, for opening the sac was a painless proceeding. He added that the general opinion of English surgeons was in favour of the two-stage operation. He had aspirated in children several times, and in one or two cases no recurrence had taken place, but recurrence did sometimes take place.—Dr. BROADBENT said that in a considerable proportion of the cases he had seen, simple aspiration had been sufficient to effect a cure. He could recollect at least half-a-dozen cases in which he had subsequently seen the patients. He mentioned that cysts varied in character, and said that he had remarked that when there were quantities of daughter cysts suppuration was very likely to take place; whenever the fluid came away easily, retrogression might be expected. In one case the struggles of the child caused laceration of the walls of the cyst and escape of the fluid into the abdomen. This, however, was absorbed, and the child got well. He was unable to reconcile this case with that related by Mr. Treves.—Dr. COUPLAND, in reply, said that most of the cases he had seen in which aspiration was employed, either suppurated or refilled. He suggested that one advantage of a free incision was that the presence of other cysts might be detected.—Mr. EDMUND OWEN, in reply, said he was disappointed that the discussion had not turned more on the extension of the cysts into the thoracic cage. As to the best operation to be performed, he said that in abscess of the liver it might be advisable to open the sac directly, but, on the whole, he preferred the method of doing the operation in two steps. He thought that there was no necessity for waiting so long or even for a few days, seeing that a few hours probably sufficed to obviate any danger of the fluid escaping into the abdomen.—Mr. TREVES, in reply to the President, said that the post-mortem examination of his case left no room for doubt as to its nature. He added that absorption did take place to some considerable extent.

The following living specimens were shown:—

Dr. HADDEN: Dry Tongue.

Dr. HERRINGHAM: (1) Atrophy of Thigh Muscles from Rheumatic Neuritis; (2) Chronic Atrophy of Leg in a Boy.

Mr. ALLINGHAM: Excision of Knee-joint.

MEDICAL SOCIETY OF LONDON.

Osteitis Deformans.—Acute Pneumoparesis.

AN ordinary meeting of this Society was held on Monday last, Dr. Hughlings Jackson, F.R.S., President, in the chair.

Dr. ELLIOTT of Hull contributed a paper on a rare case of Osteitis Deformans occurring in a young man aged twenty-seven, in whom the disease lasted about twenty-one months, and was probably complicated by multiple sarcomata in the skin and deep organs. The paper was read by Dr. Samuel West.

Dr. B. W. RICHARDSON read a paper on Pneumoparesis, which he defined as an acute form of disease usually confounded with pneumonia, in which the symptoms are due to sudden failure of nervous stimulus to the vascular pulmonary systems, nutritive and respiratory. After the recital of the cases, the author defined pneumoparesis as a progressive congestion of the minute pulmonary circulations with infiltration into the vesicular structure, ending in fatal cases by gradual asphyxia. Pneumoparesis is unattended by pyrexia, and is preceded by a distinctive train of nervous symptoms, consisting of emotional excitement, erythema fugax, extreme physical prostration, with short cough and little expectoration. The mind is impressed with the idea of impending death, but is neither alarmed nor anxious. There is no acute pain at any stage. The physical signs are dulness, commencing, as a rule, in the bases of the lungs, but sometimes in patches or centres, with fine crepitation at first, soon becoming moist, and in the later stages bronchial râles. The symptoms run a rapid course, and one that is usually fatal. If the organic nerves entering by the root of the lung could be divided, the phenomena witnessed would be those of pneumoparesis. Some years ago, by synthetical research, the author produced an artificial pneumoparesis in one of the lower animals, the rabbit, by placing it in an atmosphere charged with vapour of amyl nitrite, and he showed coloured drawings taken at the time of the condition of the lungs in different stages of the induced disease. In these cases the pulmonary paresis was caused by the action of a chemical substance on the organic nervous structures, and recovery followed upon the withdrawal of the cause, but the effects while they lasted were identical physically with those which had been described from the disease in the human subject. Pneumoparesis in the human subject, according to the author's view, is a disease having its seat in the organic nervous centres which in health regulate and control the pulmonary circulations. It is as yet an open point whether the failure commences in the nutritive circulation derived from the bronchial arteries rising from the thoracic aorta, or in the respiratory circulation of the pulmonary artery. This was a subject very rarely, if ever, studied, in relation to pulmonic affections, but it called for the minutest attention, especially in the disease now under consideration. On the whole, Dr. Richardson thought that in this instance the failure was first developed in the nutritive pulmonary vessels, and that the embarrassment in the respiratory circulation was secondary. Leaving this question as *sub judice*, he next spoke on the nature of the nervous lesion which led to the primary failure. This might be due *(a)* to mechanical injury, pressure or shock to the nervous-supplying centre or its plexuses; *(b)* to the generation within the body of some chemical product, which, like amyl nitrite, reduces to paresis the organic nervous supply; *(c)* to hereditary failure or premature exhaustion of the nervous-supplying centre under exhausting or depressing influences. The last-named view was that most favoured by the author, and we have only to let the mind become accustomed to the thought of the possible arrest of nervous stimulus in the pulmonary circulations as we do to other organs, and the fact of pneumoparesis is one of the most simple and clear forms of nervous failure and resultant structural lesion. But how wide a field it opens for observation. "Probably," Dr. Richardson said, "most of the aged or infirm die, as by natural anæsthesia, from pneumoparesis, under the added influence of cold, privation, fatigue, fear, grief, or some other temporary depressing cause." The treatment of pneumoparesis formed the concluding part of Dr. Richardson's paper. In this section he detailed the modes of treatment which had been followed in the cases under his observation. The treatment had been tentative in each case, for no rational and radical line of treatment had yet even been foreshadowed. In one case ergot was given, but without effect; in another the ammonia treatment had been employed with nux vomica, but with equal want of success. In the treatment of the third case, digitalis had been administered when the circulation was rapid, but it was impossible to say that it did any useful service; in fact, in spite of all treatment the symptoms ran an unbroken course. The record was discouraging; the "pathies" one and all were nowhere, and in short, in this as in many other instances, it would seem as if treatment receded just in proportion as a more precise knowledge of causation and cause advanced. The problem is clear, but how is it to be solved? The problem is: Given a condition in which the organic nervous supply of the pulmonary circulations is suppressed or exhausted from any cause, how shall the central failure be restored? In another case Dr. Richardson stated that he should administer oxygen by inhalation at 75° F., with the object of prolonging life and of giving time for a natural restoration of nervous balance; but even this would not be a radical cure, although in the right direction. Meanwhile he had fulfilled his present task if he had defined the disease pneumoparesis and drawn attention to a problem of cure which is most likely to be solved, *consilio animorum*.—

Dr. DOUGLAS POWELL said the cases reminded him of pneumonia without fever, and also of certain cases of bronchitis and pneumonia which terminated fatally from "drowning" of the pulmonary tissues by exudations and secretions into the ultimate air passages. In treatment strychnia and digitalis might be useful, and also the inhalation of oxygen, which he had used in a severe case of lividity with some apparent good effect.—Dr. C. H. ROUTH thought the cases resembled atelectasis pulmonum, and suggested that amyl nitrite and electricity might prove useful in treatment.—Dr. HUGHLINGS JACKSON remarked that he regarded acute pneumonia as a form of herpes zoster of the vagus nerve. Muscarine contracted the vessels of the lungs, and atropine antagonised this action, according to Brunton.—Dr. SAINSBURY spoke of the value of oxygen in diseases of the lung.—Dr. F. L. BENHAM considered the cases to be of pneumonic nature.—Dr. ANGEL MONEY was reminded by the cases of the rheumatic and other vaso-motor œdemas; he also held that there existed a mutual tension between peripheral and central organs, and this principle might be made available in suggesting rational treatment, as well as affording better views of the pathogenesis of disease.—Dr. THOROWGOOD spoke of cases of pulmonary engorgement of rapid onset, one of which was saved from a fatal issue by emetic doses of ipecacuanha.—Dr. SAMUEL WEST suggested myocarditis with heart failure and pulmonary thrombosis as possible recognisable causes of such symptoms as Dr. Richardson had described.—Dr. RICHARDSON, in reply, said amyl nitrite should not be used, and electricity was difficult, if not impossible, to apply rationally. He hoped to lay the subject of treatment by oxygen before the Society at a future date.

OPHTHALMOLOGICAL SOCIETY.

Unusual Complication after Subjunctival Tenotomy of the External Rectus.—Persistent Hæmorrhage in the Anterior Chamber after Iridectomy for Chronic Glaucoma.—Congenital Defect of External Ocular Muscles.

AN ordinary meeting of this Society was held on the 9th inst., Mr. J. W. Hulke, F.R.S., President, in the chair.

Dr. A. EMRYS-JONES (Manchester) read a paper on an Unusual Complication after Subjunctival Tenotomy of the External Rectus, relating to a girl aged ten, in whom both internal recti were divided for alternating convergent strabismus. Immediately after division of the left rectus there was profuse hæmorrhage into Tenon's capsule, leading to well-marked proptosis. A firm bandage was applied, and two hours later the proptosis was more marked, the pupil was widely dilated, inactive to light, and perception of light very doubtfult; the optic disc was very pale. From this time rapid improvement took place, and recovery was eventually complete.

Dr. EMRYS-JONES also read a case of Persistent Hæmorrhage in the Anterior Chamber after Iridectomy for Chronic Glaucoma. The patient was a man aged sixty-three, whose right eye was almost blind, and with + 1 tension; in the left eye, vision $\frac{6}{18}$, and the field of vision much contracted. The optic nerve was cupped. Iridectomy was performed on Oct. 24th, 1882. Free hæmorrhage followed, and the next day the anterior chamber was full of blood, and no trace of iris could be detected anywhere. There was scarcely any improvement in a fortnight. One month after operation the hæmorrhage had subsided considerably, and the outline of the pupil could be detected. The improvement was excessively slow, and it was not until Dec. 16th that an ophthalmoscopic examination could be made, when the vitreous was found to be clear and the optic nerve much cupped. There was cardiac disease, and the patient died on Jan. 17th, 1883, from double pneumonia. Mr. Haynes Walton had written something about this condition in his book when treating of injuries to the eye from mechanical causes.—The PRESIDENT asked what method of subconjunctival tenotomy had been employed in the first case, for he could not recall a similar accident. The hæmorrhage in the second case was persistent, and the blood retained its colour as in cases of diabetes.—Mr. ADAMS FROST had seen a similar accident to the first case.—Mr. ERNEST CLARKE had a similar experience, and thought it resulted from cutting too close to the sclerotic.—Mr. HULKE said Von Graefe intended that the tendon should be cut as close as possible to the globe of the eye.—Mr. LAWFORD had seen severe bleeding follow tenotomy, and give rise to proptosis and duskiness of the lids. A sudden effort on the part of the boy in whom the case occurred caused a fresh hæmorrhage, which subsequently subsided completely.—Dr. BRAILEY had seen similar accidents, and once optic nerve atrophy resulted therefrom. Perhaps there was rupture of one of the ciliary arteries, from too free use of the tenotomy hook. Von Graefe's operation was not likely to cause the accident.

Mr. LAWFORD read notes of four cases of Congenital and Hereditary Defect of Ocular Movements which had been under his care at St. Thomas's Hospital. These cases included a father and three of his seven children, the remaining four being unaffected. The three children who were the subjects of this congenital defect were Nos. 2, 4, and 7. In all four patients there were present the following symptoms—almost complete bilateral ptosis, loss of upward and downward movement of the eyeballs, and very defective lateral movement. Visual acuteness and accommodative power were good, and there were no ophthalmoscopic changes. None of the patients presented any other congenital defect, and they were healthy in every other respect. He referred to published records of similar cases, in some of which post-mortem examinations had been obtained, and drew attention to the fact that the ocular muscles, and not their nerves, were the structures at fault. These muscles had in some instances been absent; in others, though present, they were occasionally ill-developed, and generally shorter than the average measurement, while in almost every case their insertions into the sclerotic were displaced more or less backwards, the greatest degree of displacement being 2·5 mm.—The PRESIDENT said that it was difficult to say whether the muscles were primarily at fault, or whether there was defective innervation of muscles; disease in early life might produce such effects.—Mr. QUARRY SILCOCK supported the last idea, and related the case of a boy in whom the eyeball was not noticed to be fixed till the age of three years, and after a general illness which might have been infantile palsy, with a localisation in the eyeball muscles.—Mr. HENRY POWER spoke of the solidarity between nerve and muscle; the condition might be looked upon in some cases as a reversion to an earlier type; turtles and other reptiles had little movement, and perhaps some mammals might show an absence of the levator.—Dr. ANGEL MONEY objected to the principle of so-called reversion to an earlier type, and preferred to speak of an arrest of development.—Mr. BRAILEY said that the development of ocular muscles was not known; he did not think the reversion theory would hold good in the present instance.—Dr. SEYMOUR SHARKEY and Mr. DOYNE thought that the term reversion was a useful one.

The following living and card specimens were shown:—

Mr. SILCOCK showed a case of Exostosis arising from the Inner Side of the Orbit; sight had been early affected and was almost completely lost.—Mr. HULKE thought an explanation should be made; in one case in his own experience the tumour proved easy of removal.—Mr. HENRY POWER had had considerable difficulty in removing an exostosis from the roof of the orbit.—Mr. NETTLESHIP, in reply to Mr. Silcock, said the sight failed after the proptosis had been present one year.—Mr. SPENCER WATSON considered exploration would be necessary; but caution should be used not to employ too much force in chiselling, &c.

Mr. GUNN: A peculiar Foveal Reflex in connexion with amblyopia and myopia, so-called "policeman's lamp."

Mr. NETTLESHIP showed an ophthalmoscopic drawing from a case of Night-Blindness, with white dots scattered over the fundus.—A discussion followed relative to whether these spots were identical with those seen in Tay's choroiditis.

OBSTETRICAL SOCIETY OF LONDON.

Eclampsia of Pregnancy, and the state of the Renal Function.—Bright's Disease during Pregnancy.

A MEETING of the above Society was held on Wednesday, Dec. 7th, Dr. John Williams, President, in the chair.

Dr. GRAILY HEWITT showed a specimen of Columnar Epithelioma of the Cervix Uteri which he had removed by the écraseur.

Mr. G. M. BLUETT exhibited a specimen of Insertio Velamentosa. The cord was attached to the membranes about four inches from the nearest edge of the placenta.

A report was read on several tumours that had been shown

to the Society. Dr. John Williams' specimen was a pure fibroma, Mr. Meredith's was a fibro-myoma, and Mr. Malcolm's appeared to be a fibroma of the "youngest" type, including very new connective tissue.

Dr. HERMAN read a case of Eclampsia of Pregnancy, with observations on the state of the Renal Function. The author related a case of eclampsia coming on about the end of the seventh month of pregnancy. The patient recovered from the eclampsia, and the pregnancy continued for a fortnight afterwards, when labour spontaneously came on and a living child was born. During the lying-in period the patient twice had an erythematous rash, but except for this convalescence was undisturbed. The temperature during the eclampsia did not exceed 100°. The urine was daily collected, and examined quantitatively throughout. During the seizures it was small in quantity, of high density, but with a low percentage of urea, and containing much albumen. As the eclamptic seizures and the stupor following them passed off, first the percentage of urea rose, and then the quantity of urine and of total urinary solids ascended to the normal, and the quantity of albumen diminished. But the albuminuria did not disappear until after delivery; it sank from one-fifth before delivery to a trace on the third day after delivery, and disappeared on the sixteenth day. A slight increase in the albuminuria coincided with the erythema. The albumen was mainly paraglobulin. The author thought that the facts of the case tended to show that the disturbance in the renal function was due to altered pressure in the vessels, rather than to changes in the renal cells. The eclamptic symptoms subsided when only slight improvement in the renal function had taken place, which showed how large a margin of safety there was in the conditions under which the kidneys ordinarily worked. In an appendix, Dr. Herman communicated another case, which showed a similar alteration in the renal function—viz., during the eclamptic period a great decrease in the excreta of urea, not only absolute, but relative to the quantity of the urine and its specific gravity, the excretion of urea rapidly rising after the eclamptic symptoms had passed off.

Dr. HERMAN next read a case of Bright's Disease during Pregnancy. The author described a case of Bright's disease, manifested by œdema, headache, and albuminuric retinitis, occurring in pregnancy, and treated by the induction of labour in the eighth month of pregnancy, about seven weeks after the commencement of symptoms. The excretion of urea daily was measured during the weeks preceding and following delivery. The author compared the ascertained excretion of urea in this case with that in a case of eclampsia previously communicated by him to the Society, and showed that, in the case of Bright's disease without eclampsia, the amount of urea excreted, although below the normal, and below the amount excreted by the eclamptic patient after the disappearance of the eclamptic symptoms, was yet considerably larger than the amount excreted by the eclamptic patient at the time the symptoms of eclampsia were present. The author said that the view that "eclampsia is due to deficient excretion of urea, and the occurrence of eclampsia in a woman suffering from Bright's disease depends on the amount of urea excreted," was not a novel one. But it rested on inference, and had been little, if at all, supported by direct observation, because it was seldom that the opportunity for observation occurred in circumstances favourable for accuracy. These cases were evidence in support of that view. The author also called attention to the resemblance between the two cases in respect of the facts that the excretion of urea was larger during pregnancy than during the lying-in period, and that rapid diminution in the amount of albumen present in the urine followed delivery. He also drew attention to the different kinds of albumen present in the two cases: in the case of eclampsia (coming on in a subject who appeared to be previously healthy, and ending in complete recovery) the albumen was mainly paraglobulin; in the case of Bright's disease there was a copious precipitate of serum-albumen, but very little paraglobulin. This was in accordance with the views of Ralfe and of Maguire. In the case now reported, the Bright's disease was still present three months after delivery.

Dr. GALABIN thought that much light might be thrown by careful observations such as Dr. Herman's on the obscure points in the relation of puerperal convulsions to albuminuria. His own observations were in favour of the view that an essential element in the pathology of most cases of eclampsia is a poisoning of the nerve centres by the retention of products, not necessarily urea, through defective excreting power in the kidneys. Urea had been injected into the circulation of animals without ill effect; and in uric acid we had an example of a product much more scanty than urea, but capable in the human subject of producing more ill effects. Possibly there might be some still more poisonous substance among those present in very small quantity and now classed as extractives, the excretion of which failed when that of urea failed. He did not know what vascular condition of the kidneys Dr. Herman considered it to be which produced scanty excretion of water and was the cause of eclampsia. The only vascular condition which could produce such an effect would be one of low pressure and anæmia. He thought there was evidence to show that in many, if not all, cases of eclampsia the secreting cells of the kidney were affected as well as the circulation. 1. In fatal cases he had always found alteration of the cells evident on microscopic examination. 2. Although in many cases the albuminuria disappeared rapidly after delivery, this was not universally true. In about one-fourth of the cases he found that although the proportion of albumen rapidly diminished, yet a little remained so long as the patient was under observation. In one case he had found it persist nearly two years after eclampsia in a first pregnancy, yet the patient had recovered perfectly and went through subsequent labours without either albuminuria or eclampsia. It appeared that in some cases eclampsia was associated with Bright's disease, somewhat chronic in its after effects, but not necessarily incurable.—Dr. GRAILY HEWITT thought the remarkable frequency with which primiparæ suffered from eclampsia indicated that extreme tension of the abdominal contents in first pregnancies was an important factor. He had observed good results follow placing the patient so as to take off pressure of the uterus from the spinal region, and by procuring copious watery stools by means of compound jalap powder. Dr. Braxton Hicks had observed that sometimes albuminuria occurred first after the onset of eclampsia. Was it not probable that this albuminuria was the result of intra-abdominal tension from the spasmodic action of the abdominal muscles? He mentioned a case in which eclampsia occurred first after labour and ended fatally. One kidney was found the size of a walnut, and the other much diseased.—Dr. CLEVELAND thought that in puerperal eclampsia connected with defective elimination of urea, some decomposition of the urea took place before its toxic effect on the nervous system was manifested. In uræmic coma such decomposition was evidenced by the urinous or ammoniacal odour of the breath. He thought it of more importance to note the deficiency of urea than the presence of albumen in the urine. He would have liked some explanation of the mode in which pressure on the kidneys is said to produce eclampsia in primiparæ. He thought that in some cases there was sudden congestion of the organ, which impaired its eliminating function and produced albumen in the urine.—Dr. HANDFIELD-JONES thought that the disturbance of the renal function in eclampsia was often due to changes in the circulation of the kidney. He had met with a case in which normal urine was passed by the patient half an hour before delivery, and within three hours puerperal convulsions manifested themselves and bloody urine was passed, the urine becoming almost solid on boiling. This appeared to be due to vaso-motor disturbance, such as is met with in other regions.—Mr. JACOMB HOOD narrated two cases which he had seen lately. In the first the urine before delivery contained five-eighths albumen, and there was much œdema of the legs and abdomen. Labour was induced, and the patient did well until the sixth day, when she had convulsions for three hours and a half. Only a trace of albumen was found afterwards, and the patient was convalescent on the fourteenth day. In the second case, after the patient had been twelve hours in labour, blindness was complained of, and five minutes later strong convulsions ensued. The patient was delivered with forceps under chloroform, and after this there were six convulsions, and the patient did not recover consciousness for four hours after delivery. The urine was drawn off, and contained one-fifth albumen. On the fifth day after delivery there were three more convulsions, and the temperature rose to 101°. She was treated by free purgation and sweating, the latter by means of warm pack and pilocarpine. The albumen disappeared the day after delivery, but reappeared on the fifth day after

the convulsions. The sight gradually returned, and the patient was convalescent on the fifteenth day.—Dr. BOXALL said that in the majority, if not all, of the fatal cases of puerperal eclampsia which had come under his notice, the cortical portion of the kidney, if not diminished in area, was pale and anæmic, whereas the pyramids were congested, swollen, and standing up above the general surface of the section, and it seemed probable that the engorged bloodvessels of the pyramids lying between the tubules may exert pressure from outside to such an extent as to diminish the lumen of the straight or collecting tubules, and so prevent the free outward flow of fluid formed in the cortical portion, just as inflammation of the nipple offers an impediment to the escape of milk from the breast. He thought that congestion of the pyramids in association with anæmia of the cortical portion would appear to be sufficient to produce the variations observed in the urine.—Dr. PARAMORE thought that the impressionable nervous system was generally present in cases of eclampsia, which occurred so frequently in primiparæ, and when often in excellent health. For this reason he considered chloral and bromide of potassium were invaluable drugs in these cases.—Dr. HERMAN, in reply, agreed with Dr. Hewitt that we much needed information as to the typical course of puerperal eclampsia. This disease was so very acute, running its course within forty-eight hours, that extremely frequent observations were necessary in order to get a true picture of the phenomena. Eclampsia was not a common disease, and most cases could only be observed at the patient's homes, where very detailed and frequent record was impracticable. But for this consideration he should have waited till he could bring forward a larger number of cases. He did not attach so much weight as Dr. Galabin did to the objections made to the uræmic theory of the disease. Experiments on animals in which urea was injected into the blood without harm following he did not think conclusive, because the animals had healthy kidneys and could excrete the urea. He did not think that increased pressure within the abdomen was the sole casual condition, but he thought that the greater frequency of eclampsia in first pregnancies and at the end of pregnancy rendered it probable that pressure was one of the casual conditions, and this view was supported by the rapid diminution in the amount of albumen which almost always quickly followed delivery. Even if albuminuria persisted, there was generally a drop in the amount of the albumen. If the views of Ralfe and of Maguire as to the significance of the presence of paraglobulin and serum-albumen respectively in the urine should be shown by observation in a large number of cases to hold good, they would prove of great value in prognosis. He did not think that all cases of eclampsia were alike, for on post-mortem examination the renal changes met with were of the most various kinds: acute nephritis, large white kidney, granular kidney, dilatation of ureters and pelvis of kidney, were each met with, and in some cases there was no naked-eye appearance of kidney disease.

Notices of Books.

Dental Caries, and the Prevention of Dental Caries. By HENRY SEWILL, M.R.C.S. & L.D.S. Eng.—There are three different views of dental caries. In one the disease is assumed to be no disease whatever, but merely the result of chemical solution of the dental tissues, and therefore dependent both in its origin and its progress on the uncontrolled action of physical and chemical laws. Another hypothesis is that the teeth, being a part of a living organism, profoundly modify the progress of the disease; and a third, that caries is of inflammatory origin and comparable to caries of bone. Mr. Sewill gives a terse and lucid argument in favour of the purely passive condition of dentine during decay. He relies partly on the statement that caries will and often does take place in natural teeth mounted on artificial dentures or pivots, and that the naked-eye and microscopical changes are precisely similar to those seen in ordinary caries of teeth. On this point, however, there seems to be some discrepancy amongst observers Tomes says that he has not seen a sufficient number of cases to be quite sure; Magitot, on the other hand, considers the "translucent zone" as characteristic of caries of living teeth. The fact that the dentine is evascular has often been used as an argument against its capability of inflaming—following the now exploded dictum, "where there are no bloodvessels there can be no inflammation." That some changes do take place in dentine during its disintegration is shown by various facts—the increase in sensibility, the hardening and pigmentation under favourable circumstances. Mr. Sewill gives some practical information about the prevention of caries with reference to constitutional and local treatment.

The Diagnosis and Treatment of Eczema. By TOM ROBINSON, M.D., L.R.C.P. Lond., M.R.C.S. Eng., Physician to and Lecturer at St. John's Hospital for Diseases of the Skin. London: J. & A. Churchill. 1887.—It appears in the dedication of this book that Dr. Robinson's chief objects in adding to the literature of eczema have been "to clear the ground of a number of words which are simply emblems of imagination," and "to connect together the morbid processes which we find occurring in the skin and mucous membrane, so that we may be enabled to peep through the veil and show that the causes of eczematous inflammation are identical with those that operate in all other forms of disease." Further he desires "to present the varied canvas of eczematous inflammation as an intelligible whole, to trace out the causes of this variety," and lastly to relieve suffering. However praiseworthy his objects and desires, we are sorry we cannot commend the work. There is little that is original, except perhaps the conception of the eczematous diathesis.

Lumley's Public Health Act. Annotated by WILLIAM PATCHETT, Q.C., and ALEX. MACMORRAN, M.A., Barrister-at-Law. Third Edition. London: Shaw and Sons. 1887.—The fact of the second edition of this work, which was only issued late in 1884, having for some time past been out of print, affords one of the best indications of the value that is set upon it. The present edition brings the legal aspect of public health up to current date, including as it does all the more recent statutes relating directly or indirectly to the subject. But the main value of the work attaches to the annotations to the several sections of the Acts dealt, with, and the editors have evidently spared neither time nor pains in making these as complete as has been possible. Thus, in dealing with Sec. 157 of the Public Health Act, 1875, as to the making of bye-laws to control the construction of dwellings &c., they have covered no less than eight pages with matter that must be of the greatest value to those who are in any way concerned with the administration either of the law or of a code of bye-laws on this subject. The legal definition of the terms included in the statutes, the more important decisions that have been given on the subject, and the limits which are imposed on sanitary authorities in the matter, are all set forth. So also, in dealing with sections that relate to the prevention of the spread of infection, the same method is adopted, instances being cited to show the extent to which these clauses may be trusted by sanitary authorities and their officers in their endeavours to control infection. A considerable number of the original annotations have been modified or enlarged according as such circumstances as new legislation has rendered change imperative. The volume is necessarily bulky, for in order that it should in itself constitute a library of reference as to the statutes and decisions affecting public health, a copious index and a well-arranged table of cases are included within it; and it appears to us to be, without question, the most complete work relating to the subject with which it deals.

"*Dead, yet Speaketh.*" By Doctor SAKS. Bristol: Arrowsmith. London: Simpkin and Marshall.—This is a tale

written by a physician in his leisure moments, of which, as a rule, members of our profession have not too many. Its interest centres in the close correspondence of unfolding events with the details of a vivid dream which is represented to have occurred to the narrator, and in which his friend, a young barrister, was seen to plunge a knife into the breast of an aged man at the instigation of the nephew of the victim, and in the presence of a sleeping girl of surpassing beauty, the prize to be won by the foul deed. The plot is simple enough, and the working out of its parts does not demand the exercise of a large amount of ingenuity. The *dénouement*, though making virtue triumphant, is, we think, somewhat abrupt and disappointing. One would like to find that villainy was not only defeated but adequately punished, whereas in this tale the villain simply drops out of view. Though two of the characters belong to the healing art, the story is refreshingly free from medical technicalities. The writing, too, displays in some places considerable power, and in others there are touches of quiet humour, as in the description of the bearing of different members of a country coroner's jury when about to engage in the momentous duty of "viewing the body." Spite of several indications of the prentice hand in the construction of the story, the book is very readable.

L'Ospedale Lina. Dott. EDUARDO SALVIA, Rendiconto Statistico. 1881-86.—The Lina Hospital was founded in Naples in 1880 by the Duchess Teresa Ravaschieri Fieschi for children. Dr. Salvia now publishes an account of the work done during the first quinquennial period of the hospital's existence. The total number of in-patients was 331, of whom a large proportion seem to have been admitted for surgical operations. Resection of bone and osteotomy were performed very frequently, considerable use being made of Macewen's osteotome. Forty-two children were operated on for vesical calculus, lateral perineal section being invariably the method selected. Of this number, three cases proved fatal—two from peritonitis and one from pneumonia. In all the cases chloroform was given, the operation was performed in the dorsal position, and Dupuytren's tube left in the wound.

An Index of Surgery, being a concise classification of the Main Facts and Theories of Surgery for the use of Senior Students and others. By C. B. KEETLEY, F.R.C.S., Senior Surgeon to the West-London Hospital. Fourth Edition. London: Smith, Elder, and Co. 1887.—The fact that a fourth edition of Keetley's Index of Surgery is called for is a sufficient proof of the favour with which it is regarded by "senior students and others." Only minor additions and alterations have been made in this edition, but they have been sufficient to keep it up to date, and to make it worthy of the reputation won by the earlier editions.

Précis du Cours d'Exploration Clinique et de Diagnostic Médical. Par le Dr. E. SPEHL. Fasc. 1 to 3. Bruxelles et Paris: Lebegue and Cie.—Dr. Spehl is issuing in parts the text of his class instruction in practical medicine at the Brussels University. The three fasciculi before us include the substance of nearly three out of the twenty-four lectures of which the course consists. They contain a general description of clinical topography, the method of examination and interrogation of the patient, and the examination of the urine. There is nothing to call for special comment, for the character of such a work can hardly be estimated from such small instalments. A judgment will be formed better when the whole is completed. The scheme drawn up by the author seems to lack nothing in the way of detail.

Letts's Diaries, &c., published by Cassell and Co., offer a most complete supply of time-saving publications to meet the requirements entailed by the infinitely varied engagements and occupations of professional and commercial life, as well as of domestic economy. These diaries, date-books, wallets, &c., are all excellently got up, being securely bound to resist the effects of constant use the whole year round, while the fulness and intelligent arrangement of their contents leave nothing to be desired. With such aids to methodical work, negligence or slovenliness in its performance would seem to be wholly inexcusable.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE annual general meeting of the constituents of this Fund was held in the Old Council Chamber, Guildhall, on Monday last, under the presidency of the Lord Mayor.

The LORD MAYOR, in opening the proceedings, congratulated the meeting on the circumstance that the past year had been the most successful in the history of the Fund, and expressed a hope that it would long continue its course of usefulness and benevolence.

Sir SYDNEY H. WATERLOW said it could be well understood that it was a great gratification to him for the thirteenth time to propose the resolution asking their constituents to affirm and adopt the report which the Council had presented. The annual advance in the collection was a subject for congratulation. It had not been one continual progress, because that institution, like all others, whether founded for philanthropic, political, or social purposes, had its trials in the beginning. It had in its earlier years to win the confidence of the public and to make them feel that it supplied a want, and that the work that it undertook to perform was done honestly, conscientiously, faithfully, and usefully. The collection of 1887 was the largest that had been made, and the progress of the last six years had been very great. In 1874 the amount was £30,000, and in 1880 it had only reached £30,423—a very small percentage of increase; but it had since risen from £31,850 in 1881 to £40,607 in 1887, or 20 per cent., as against 2 per cent. in the previous six years. From 1874 to 1880 there was practically no increase in the number of congregations. Commencing with 1072, they rose only to 1225 in 1880, but in 1881 they rose to 1268, and in 1887 to 1633. (Cheers.) This showed that the work of the Fund progressed, and that ministers of all denominations were to an increasing extent coming to the conclusion that the best method of collecting money for the relief of the sick poor in their large hospitals and dispensaries was to do so on Hospital Sunday, seeing that by that means it would be collected and distributed at the smallest possible charge. Looking to the work that the Fund had to deal with, they found that in 1874 there were 104 institutions claiming to take a share of the funds collected. In 1887 there were 157 hospitals, dispensaries, cottage hospitals, and convalescent homes taking a share of the Fund—an increase of nearly 50 per cent. He did not mean to say that there had been fifty-three great hospitals established in London since 1873, but there had undoubtedly been many more convalescent homes, a class of institution that was growing into favour, and which the public had come to feel were an absolutely necessary adjunct to large hospitals. These convalescent homes had done more for the sick poor of the metropolis than even the hospitals themselves, for the hospitals never finished their work. They might cure a man of the acute evidences of disease, or by means of some operation he might be comparatively restored to health, but then he was often turned out in a condition in which he was unable to go back and win his bread, and he frequently broke down in endeavouring to do so. On the other hand, if they could send a man for three or four weeks to a convalescent home the work would be complete, the man gaining, with good food and good air, that strength which enabled him to become again the breadwinner of the family, from which by accident he had been taken away. (Cheers.) While the Fund had only increased 28 per cent., the number of institutions relieved had increased nearly 50 per cent. What he wished the public to understand was this: that, though they did not want more hospitals, they did want more money to enable the beds in existing hospitals to be utilised. (Cheers.) The first cost had been incurred; they had the hospitals, but many of them had not funds enough to admit as many patients as they had beds to accommodate. The great want of the present day was money to enable

them to fill the vacant beds, and it was one of the first Christian duties of the people each one to subscribe according to his means, however trifling, to accomplish that object. (Hear, hear.) One of the new branches of their work was setting apart a certain percentage of the money for the purchase of surgical appliances for the relief of persons who, having undergone all that hospitals and surgeons could do for them, required instruments, which the funds of hospitals, as a rule, could not purchase, and for which too frequently they had to apply to the general public. The Council of the Fund felt that this was a part of their work which ought not to go uncompleted. As matters at present stood, a duty of labour and pain was thrown upon the poor sufferers to which they ought not to be subjected—the duty of flying from one subscriber to another to get ten, twenty, or thirty tickets before they could receive the surgical appliance which they needed, too frequently causing an injury to the patient in the process of obtaining the instrument. The Council had deducted a certain percentage from the Fund during the last four or five years for this purpose. During the present year £1600 had been deducted, by means of which some 1500 persons had been relieved with instruments of various kinds, each costing from 5*s.* up to as much as £6 or £7. The patient had now no trouble except to go to the minister of the district in which he lived—Nonconformist or Church of England. The minister then sent the recommendation, and, if it was properly endorsed and certified, the secretary signed the order, which the patient presented at the nearest hospital or dispensary, and then obtained without further trouble the instrument necessary, fitted under the direction probably of the surgeon who treated the case. He ought not to close without referring again to the generosity shown by the late Dr. Wakley, who in the year 1886 gave them a donation of £1000. Dr. Wakley was deeply interested in the Fund, and no one perhaps was more competent to judge of its value than he, because he was the able editor and proprietor of THE LANCET, a journal dealing especially with the class which would bring all hospital matters under his own cognisance. Dr. Wakley gave them £1000, and he had by his will left them £1000, which had been paid during the past year. He referred to this as an evidence that the man most competent to judge felt that there was no charity in which his money would go so far as it would in the Hospital Sunday Fund for the relief of the sick poor of the metropolis. (Cheers.) He understood that some communication had been received from some of their friends referring to the fact that by their report and returns it was shown they did not contribute to some districts in London as much as they received from those districts. Certainly not. (Hear, hear.) How could the poor of the East-end contribute all that the wealthy denizens of the West-end could contribute? The establishment of the Fund was for the very purpose that the wealthy might contribute to the poor, and that the poor might receive the help of those who were able to afford it. (Hear, hear). He therefore hoped that contributors living in the West-end would feel that there had been a right appropriation of the money which they had given. They had also been asked whether they ought not to have a representative on the Council for each denomination. There were fifty clerical members of Council and 1633 contributing congregations. He understood that the denomination that had raised the question had four contributing congregations. They could not give a representative to every four congregations, seeing that the proportion of representatives to congregations was about 3 to every 100. The Fund was not administered with the slightest idea of anything sectarian. (Cheers.) They wished to make it a universal fund, and one of its great advantages was that it brought Christians of all denominations into harmony and union on the one day selected for Hospital Sunday. The universality of the Fund was one of its greatest recommendations. He begged to move, "That the report of the Council for the year 1887 is hereby received and approved."

The Rev. Dr. ALLON, in seconding the motion, said that Sir Sydney Waterlow was to be congratulated on the success of the Fund, which was the child of his own benevolent purpose. It was an object altogether apart from denominational considerations, and he protested against the introduction of such topics in connexion with the Fund.

Mr. T. NICHOLS asked whether any precaution was taken against the abuse of the charities assisted by the Fund. It was within his knowledge that there were many recipients of charity who were well able to pay small ordinary medical fees. He would suggest that after an applicant had once been relieved he should take away some form to be filled up, in order to prevent abuse.

Mr. READ contended that the Fund was not only a benefit to the poor, but to the rich, since they obtained the benefit of the large experience which hospitals afforded to medical men in regard to the different modes of medical treatment.

The motion was then agreed to.

Sir E. HAY CURRIE moved, "That the laws of the constitution which have been in force during the past year be continued." He said that they were all most grateful for what was done by the clergy and the congregations in aid of the Fund, but he hoped it would not be considered that £40,000 a year was anything like an adequate sum to be contributed by the wealth of London to such a purpose. Deducting the £1000 given by each of three large congregations and the £1000 legacy of Dr. Wakley, and dividing the balance between 1600 congregations, the amount contributed by each of them would be seen to be very small.

The Rev. RHODES BRISTOWE, in seconding the motion, expressed a hope that the practice of some churches of deducting from the hospital collection a certain amount for ordinary church expenses would be abandoned.

Mr. NELSON HARDY wished to draw attention to the manner in which the laws had worked in one particular direction. South London, which was more like the East-end than the West, and where the congregations were mainly poor ones, contained about one-fourth of the population of London, and it contributed about one-fourth of the total amount given to the Fund by the churches. But the entire amount given by the Fund for the treatment of the sick poor generally in South London (not including Greenwich Hospital, which was intended for particular classes) was £260. Adding the amount given to special hospitals and dispensaries, the total sum was £2696, as against £31,000 awarded to the rest of London, excluding in both cases convalescent hospitals. The result was that the hospitals of South London, so far as Hospital Sunday was concerned, were simply starved. Many poor patients had to go to hospitals north of the river, and their friends were thus put to unnecessary trouble and expense in going backwards and forwards. Hospitals like Guy's and St. Thomas's had not funds to accommodate all who applied, and many of the sick poor were finding their way into the workhouse infirmaries, where serious operations, such as ovariotomy, were now sometimes performed. It might be said that the hospitals in South London did not require help, but that was a mistake. Guy's, which formerly had an income of £40,000, had now only a steady income of £26,000; and the consequence was that 200 beds, which would be available for the treatment of the sick poor, were now empty.

Sir SYDNEY WATERLOW said that Guy's Hospital had been told that they could apply to the Fund if they liked, but they had declined to do so.

Mr. NELSON HARDY said that he had been informed by the treasurer that Guy's Hospital intended to apply next year. If, however, they were treated according to the existing laws, they would probably get so small an amount that it would be hardly worth while to apply. He thought, therefore, that a *primâ-facie* case had been made out for some inquiry into the working of the laws as they at present stood. He did not doubt that the laws had been admirably administered, but he would venture to move as an amendment, "That the laws as at present in operation be provisionally adopted, and that the attention of the Council be requested to the contrast between the receipts from South London churches and the awards to the South London hospitals and dispensaries, and that they be asked to consider what changes, if any, are desirable in the rules for the administration of the Fund."

The Rev. H. SWITHENBANK seconded the amendment. He said that he represented 5000 persons in the south of London, mainly poor people, and he was constantly sending sick persons to hospitals with recommendations from the Fund, but in almost every case they had to go across the water. He had no right of access to Guy's Hospital, though it was within easy distance.

Sir SYDNEY WATERLOW hoped that the meeting would not throw back upon the Council any question with regard to the appropriation of the money received in one locality to the wants of another. Any application from hospitals or dispensaries in the south of London would always be considered and justly dealt with. The treasurer of Guy's Hospital was told that he could apply to the Fund, subject to

the condition that their accounts were rendered in order that the Committee of Distribution might have the opportunity of investigating them, and determining whether upon its merits the hospital ought to receive a grant. When that condition was complied with, any application from Guy's Hospital would receive careful attention.

Mr. H. BURDETT said that the people in South London had relied upon the great endowed hospital of Guy's to provide all the necessary accommodation for the sick free of cost. They ought to be very careful before interfering with the present administration of the Fund, which had worked so well, and he hoped that the amendment would be withdrawn, or, if pressed, would not be carried.

Mr. A. L. COHEN said that, as a governor of Guy's Hospital, as well as a member of the Council, he thanked Mr. Nelson Hardy for his intervention, and he also thanked the Council, and Sir Sydney Waterlow in particular, for insisting upon an exact formulated statement of the accounts of the hospital. If twenty years ago its accounts had been overhauled by the critical eyes of the Council, very probably the hospital would not now be in its present plight. He trusted that it had turned the corner, and was getting into better order. He hoped, however, that Mr. Nelson Hardy would withdraw his amendment, and be content for the present with the useful discussion which had taken place with reference to it.

The Rev. J. R. SIMPSON expressed a hope that Mr. Cohen's suggestion would be adopted. He was quite sure that the matter would receive the best attention of the Council.

Mr. HARDY then withdrew his amendment, and the motion was agreed to.

The Rev. J. F. KITTO moved: "That the Council for the year 1888 be constituted as in 1887, with the following alterations—viz.: The Rev. S. B. Burnaby, M.A., in the place of the late Rev. Prebendary W. G. Humphry, B.D.; the Rev. the Hon. E. Carr-Glyn, M.A., in the place of the Rev. P. W. N. Bourne, M.A.; the Rev. Archd. Richardson, D.D., in the place of the Rev. R. Maguire, D.D.; Colonel Sir Reginald Hanson, Bart., LL.D., &c., in the place of the Right Hon. P. De Keyser, now Lord Mayor; Mr. Alderman Whitehead, in the place of the late Sir William McArthur, K.C.M.G.; Alfred L. Cohen, Esq., in the place of his late brother Lionel L. Cohen, Esq., M.P.; Claude Goldsmid-Montefiore, Esq., in the place of John G. Pitcairn, Esq.; and that the other retiring members be re-elected for 1888." He desired to echo the sentiment of Dr. Allon that anything like division into denominational parties should not be tolerated in the constituency. The real constituency of the Fund was the whole of London, and not any particular part of it.

Dr. HARE seconded the motion, which was agreed to.

On the motion of the Rev. C. J. RIDGEWAY, seconded by the Rev. M. BARLOW, it was resolved—"That the 10th day of June be fixed for Hospital Sunday of 1888, and that the cordial co-operation of all ministers of religion within the metropolitan area be again invited in the usual way."

On the motion of Dr. FORREST, seconded by Dr. GLOVER, a vote of thanks was passed to the Lord Mayor for presiding. His lordship having briefly acknowledged the compliment, the proceedings terminated.

ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD.

[FIRST NOTICE.]

IN the recently issued annual report on the proceedings of the Medical Department of the Local Government Board Dr. Buchanan returns once more to the question of the diffusion of small-pox around metropolitan small-pox hospitals. Reading between the lines, it appears that his present remarks on the subject, and the great mass of materials which are embodied in a summary intended to show the more important data on which Mr. Power's conclusions were based, have been produced on the present occasion because of the insertion of Dr. Bridges' comments in last year's volume, and because of certain other criticisms which are held not to have been properly considered. It will be remembered that Dr. Bridges accepted the view that the hospitals did mischief, but he clung to the opinion that the evil was brought about by direct human communication, and not as the result of an aerial diffusion. We have often pointed out that this view can no longer be sustained, and, unless it could have been enforced on grounds that were in no way open to question, there certainly was nothing to justify an official suggestion that the official view of the Medical Department might, after all, be wrong. But the grounds alleged were weak in the extreme, and their publication has enabled Dr. Buchanan to express his view of them. Taking the principal criticism—namely, the circumstance that in one quadrant around the Fulham Hospital, containing 121 houses, no cases of small-pox were observed during an epidemic period of four months, a result which, it is implied, could hardly have been brought about if any aerial diffusion took place,—Dr. Buchanan retorts that his critic, who supports the direct communication theory, must have altogether forgotten the circumstance that the particular quadrant referred to actually contained the route and the only one by which all direct human communication with the hospital took place. Other criticisms of this aerial theory have been equally worthless, based as they have been, not on data as to the immediately surrounding population, but on statistical evidence as to the incidence of small-pox on registration districts.

Dealing with such critics, and especially with Dr. Bridges' memorandum, which was inserted at the President's request, Dr. Buchanan now asks his chief to allow him to request his future readers not to misrepresent him, or to hold him "incapable of seeing that what is true of five is presumably in a measure true of three or two, and so forth"; and he once more asserts that his department professes to have established a doctrine concerning the means of small-pox spread that is applicable for the practical purposes of the inhabitants of London, and that affords to hospital authorities, if they choose to recognise it, better opportunities than they before had of preventing the unquestioned danger incurred by those who live near to small-pox hospitals. The opportunities referred to, and especially the one which deals with a complete alteration in the system of small-pox construction, ought to be recognised. Much money has been spent on these hospitals; their method of administration has been modified to meet the views of the "direct human intercommunication" theory, but where small-pox aggregations take place the danger of diffusion still remains.

Typhus is another disease which has received a good deal of attention during the year reported on. It is a disease which, when once it gets a footing in a thickly crowded community, is most difficult to eradicate, and its appearance in 1886 naturally gave cause for anxiety. Some seventy districts were, in consequence, visited; and at the onset it became evident that many of the younger medical practitioners, including health officers, not having had experience of typhus, failed properly to diagnose the disease. Some gave the name of typhus to other forms of continued fever; and others, again, were unaware that they were dealing with typhus until it had spread fatally in their midst. In all, true typhus was found to be prevailing in seventeen important centres of population, its incidence being mainly in the most crowded and miserable localities; and it was in some instances discovered in precisely the same places that had been the scenes of its occurrence in past times. In many of these places it was necessary to point out anew that if sanitary authorities wish to keep their districts free from typhus, they must, above all, deal with the question of overcrowding, and be prepared in advance with such means of hospital isolation as shall enable them to place the first attacks under circumstances which will not constitute a danger to the community. There are few outbreaks that respond so easily to early and complete isolation as do those of typhus fever.

The whole subject of scarlet fever in connexion both with milk and with bovine disease is fully discussed in the report, but this subject is discussed in another part of our present issue.

The history of cholera during 1886 is also recorded in detail by way of supplement to the story told of the earlier parts of the epidemic of 1884-87 which has already appeared. And to this is added a final record of the cholera survey, which aimed at securing for places especially liable to cholera, either by reason of their position on the coast, or on account of known defects in their sanitary condition and administration, all such immunity as immediate measures of sanitary reform could be expected to provide. We have often referred to this survey, and we would again remark that though its details may be uninteresting, yet the principles underlying it are those which have tended so much to free this country from conditions favourable to the spread of cholera, and which have already brought about results which would have been impossible under a quarantine system.

THE LANCET.

LONDON: SATURDAY, DECEMBER 17, 1887.

THE interest excited by the etiological inquiry initiated by Mr. POWER and Dr. KLEIN, and completed by the researches of the latter, which have just been published in the 15th Annual Report of the Medical Officer to the Local Government Board, will be in no degree lessened by the report which was made on Thursday last to a special meeting of the Pathological Society by Professor CROOKSHANK, and which we publish in another column. Although we are unable this week to report the discussion at the Society, it may be well to direct attention to the question at issue between Professor CROOKSHANK and Dr. KLEIN, which forms so interesting a sequel to the original investigations. That inquiry, it will be remembered, commenced exactly two years ago, and resulted in the tracking of an epidemic of scarlet fever in North-West London, with painstaking care and conclusiveness, to a milk-farm at Hendon, and in the absence of any evidence of external contamination to the milk of certain cows suffering from an infective disease of the teats and udder. It is this "Hendon cow disease" that Professor CROOKSHANK states he has still further investigated, with somewhat remarkable result a result which does not confirm the notion of its scarlatinal nature. Yet it is well known how thoroughly Mr. POWER excluded every possible source of contamination of the milk before he came to the conclusion that the bovine and human disease were related. As to the cow disease, Dr. CAMERON analysed minutely its clinical characters, and declared it to be a specific contagious disorder differing from other somewhat similar affections to which the cow is liable; whilst Dr. KLEIN showed that the cutaneous and visceral lesions of the affection in inoculated animals presented a striking similarity to the lesions of scarlet fever. He succeeded further in discovering and isolating a micrococcus, the characters of which, upon cultivation, were perfectly distinctive, and by inoculation of cultures obtained ample evidence that the lesions referred to depended upon the presence of this microbe. His later researches were directed to human scarlet fever, and resulted in the detection of the same "micrococcus scarlatinæ" in the blood and tissues of patients. His inoculation experiments were numerous and all to the same purport, and he succeeded, both by inoculation and feeding with cultures of the micrococcus obtained from the human scarlatinal patient, in inducing a definite general disease in calves which bore a great resemblance to that observed in the Hendon cows. Thus it would seem as if the connexion between the human and bovine disease had been fully proved, wanting only the crucial but inadmissible test of human inoculation with the bovine virus—a test, by the way, which is equally inapplicable in the case of other infective diseases of the human species the bacterial origin of which is beyond dispute.

It was hardly to be expected that results so remarkable and far-reaching should have escaped criticism. They involved not merely the discovery of the scarlatinal contagium, but the implication of the most useful of domestic animals and most universal of articles of food in the propagation of the disease, to an extent which demanded very thorough investigation before acceptance. That milk is unfortunately a ready medium of contagion is proved by numberless instances of epidemics of typhoid fever, diphtheria, and scarlet fever traced to its use; but hitherto the milk-infection has been attributed to a human source. The result of Dr. KLEIN'S inquiry has then been to direct especial attention to the nature of the affection from which the cows at Hendon suffered; and to stimulate the Agricultural Department of the Privy Council to an inquiry of which Professor CROOKSHANK'S report forms the first fruit. Dr. THIN, in an able criticism upon the subject, delivered at the Dublin meeting of the British Medical Association, dwelt at length upon this side of the question, introducing new evidence from competent observers of the malady. He confirmed Dr. CAMERON'S statement that the affection is currently styled "cow-pox" by those who have the charge of the diseased animals; but neither Dr. THIN nor Dr. CAMERON considered it to be the true form of cow-pox, of which since JENNER'S day many counterfeits or spurious forms have been recognised. Indeed, Dr. CAMERON specially points out that in the Hendon cow disease there is neither a papular stage nor a subsequent pustule, and there is also an absence of such characteristic features of cow-pox as the central depression of the vesicle, marginal induration, areola, and ultimate pitting of the skin; in fact, in hardly any point did the two conditions approximate. In the light of Professor CROOKSHANK'S results, these statements are, it will be seen, of great importance, if only as showing the difficulties which JENNER must have encountered in his discovery of vaccination. The criticism of Dr. THIN and others extended beyond this point, and dealt with the evidence adduced by Dr. KLEIN from his bacteriological research. It may suffice here to say that this amounted to the suggestion that the micrococcus was nearly allied to streptococcus pyogenes, and was therefore probably the result of accidental contamination: whilst some thought that the conclusion of its scarlatinal nature had been too hastily arrived at. We need not dwell now upon the concurrent investigation by Drs. JAMIESON and EDINGTON into scarlet fever, and their discovery of a bacillus scarlatinæ; for, interesting as that line of inquiry is, it has no direct bearing upon the precise subject dealt with by Professor CROOKSHANK—viz., the relation of the Hendon Cow Disease to Scarlatina in Man.

Whatever value may be assigned to the pathological resemblances between the bovine and the human disease—and Dr. KLEIN has pointed out that the cutaneous and visceral lesions are very similar,—it cannot be contended that in their clinical features there is much similarity. In the cow a limited local eruption of highly contagious properties, with slight or no concomitant fever, can hardly be said to resemble the acutely febrile exanthematous malady in man. The characters of the cow disease appear to be definite enough, and Professor CROOKSHANK was requested to examine into examples of an affection which he identified with this disease. Nor did the grounds of identity rest solely upon the clinical phenomena. Pro-

fessor CROOKSHANK followed the same procedure as Dr. KLEIN, and by inoculations and cultivations arrived at the same results. He found the same micrococcus, as the cultures proved, which Dr. KLEIN had found in the Hendon cows and the scarlatinal patients; but the results of the post-mortem examination of the diseased animal are reported by Dr. KLEIN to be wholly different from the lesions he had previously observed. Then followed the investigation by Professors BROWN and CROOKSHANK of another and very extensive outbreak of the same disease, in which its locally contagious characters were extremely well shown, both in animals and in those who milked them. Inquiry, however, failed to reveal any cases of scarlet fever among the consumers of the milk from this large number of diseased animals. The question obviously turns upon the point whether the disease in this outbreak was the same as that first observed, and both similar to the Hendon cow disease; for although Professor CROOKSHANK does not state whether he isolated the streptococcus in this instance, he is evidently quite convinced himself of the identity of all these cases. The upshot of the inquiry is, however, most remarkable—sufficient to justify the unusual step of a special meeting of the Pathological Society; for, if all these cow affections are identical, this discovery would sever the chain of evidence adduced by Mr. POWER and Dr. KLEIN in support of their contention that the Hendon cow disease is scarlatina. It is not a fortnight since proof was afforded in the person of a farm lad, who had contracted it from the cow, that the disease observed by Professors BROWN and CROOKSHANK is indubitably cow-pox. Professor CROOKSHANK seems to have had suspicions of this as the inquiry progressed, and he evidently did not consider that the differences alluded to by Dr. CAMERON sufficed to separate the Hendon outbreak from true cow-pox. If Professor CROOKSHANK be right as to the identity of his cases and those at Hendon, as well as in the determination of their nature, then the current terminology of the farm has proved to be correct, in spite of the disclaimers of skilled scientific investigators; and the suggestion is forced on the mind that vaccinia in the present day is not so rare as has been imagined. At the same time it is highly improbable that the micrococcus which was discovered by Dr. KLEIN is the vaccine virus; for nothing can be plainer than the evidence he advanced in support of its existence in the blood and tissues of scarlatinal subjects. Professor CROOKSHANK promises further investigation on this point, but it is clear that he inclines to the view which Dr. THIN propounded that this microbe is a septic organism, and therefore only accidentally related to either cow-pox on the one hand, or scarlet fever on the other.

In the elaborate and exhaustive paper upon "Some of the Infectious Diseases common to Man and the Lower Animals," which he read before the Epidemiological Society on Wednesday, Dr. KLEIN devoted a considerable space to scarlet fever, and not only replied to such criticisms as those of Dr. THIN, but also by anticipation to the inquiry in which Professor CROOKSHANK has had a share. He pointed out that there were known to him seven kinds of streptococci, including S. pyogenes and S. scarlatinæ, which bore a close resemblance to one another in their growth, but which on careful study of the rate and mode of growth in various media could all be differentiated. One of these was the microbe yielded by the disease in the cow alleged to resemble the "Hendon cow disease." Dr. KLEIN stated that the only points of similarity between the two affections rested in the ulceration of the teats and udders. Professor BROWN had enabled him to make post-mortem examinations of some of the animals, and the result was an absence of the marked visceral lesions which had been found in the Hendon cows. Therefore he was not surprised that no cases of scarlet fever had been traced to the milk of the cows in the late outbreak. He also met the objection that the disease of the Hendon cows bears so little clinical resemblance to human scarlatina, by citing the instances of cow-pox and small-pox, of woolsorters' disease and malignant pustule, of scrofula and lupus and tuberculosis, in man and animals, as showing that diseases owning the same origin may assume different forms in different conditions. If, then, Dr. KLEIN be right, his opinion that scarlatina is one of the infectious diseases communicable to man still holds the field; but if Professor CROOKSHANK be right—and the vital importance of the subject requires that his conclusions should be thoroughly sifted—then the connexion between cow disease and scarlatina must of necessity fall to the ground, and the remarkable facts in support of the doctrine gathered in the first inquiry must be attributed to coincidence. The evidence adduced by Mr. POWER seemed irresistible in its logical sequence, and it is difficult to detect a fallacy anywhere in the chain of argument. We trust that the discussion at the Society, which is in progress as we go to press, will aid considerably in clearing up the question, which is of such moment to the community, and that more light will have been thrown upon the numerous vesicular diseases of the cow's udder which have been so long confused under the head of "cow-pox." In any case, it cannot but be useful that attention should be directed to the existence of these contagious diseases of the cow, so that every means may be adopted to prevent the spread of such disease in a herd or the dissemination of milk from infected animals.

IT has been said that typhoid fever has no geography. Its prevalence, no doubt, has a relation to heat, and there is more of it in tropical, semi-tropical, and temperate climates than in cold ones; still, allowing for differences of degree, it seems to prevail everywhere. Whether its causes are invariably the same in all countries may be, and is, a disputed point, but that it is a disease amenable to the operation of sanitary measures is wellnigh universally acknowledged. The deaths from this disease in England from 1861 to 1870 were at the rate of 19,000 per annum; whereas from 1871 to 1880 they fell to 7000 per annum; and at Frankfort-on-the-Main and at Dantzic we have statistical proof of the remarkable decline of this disease since the introduction of proper systems of sewerage and water-supply into those cities. Our attention has been called to this subject in connexion with a report thereon by the members of the Central Board of Health for the colony of Victoria, which has been presented to both Houses of Parliament by command of his Excellency the Governor. Typhoid fever is never altogether absent, but the colony has this year been visited by an epidemic. The same law

that holds good for England and America equally applies to Australia—viz., that typhoid fever chiefly prevails towards the end of the summer, and especially in autumn, and after periods of long drought. But the members of the Central Board of Health in their report rightly dwell on the fact that seasonal influence, after all, is merely an exciting, and not the originating, cause of typhoid fever. "It only co-operates with certain other auxiliary conditions which are favourable to the spread of the disease, but none nor all of these can in any true sense originate it." No subject has been more keenly discussed in recent times than the question of the causation of typhoid fever, with the practical outcome that it is considered an eminently preventable disease.

The members of the Central Board of Health of Victoria do not pretend to advance anything new in theory or pathology. They are content to accept the doctrines promulgated by some of the best minds of the medical profession in Europe and America, which BUDD very succinctly summed up in the words, "Contagion is the master-fact of its history"; and they proceed to explain and illustrate in what particular sense and through what instrumentality the contagium may exert its influence. As regards the extent to which the disease prevails in the colony, which can only be estimated approximately from the number of deaths, it appears that the mortality from typhoid fever in the colony last year was 522, the whole population being a very little over 1,000,000; and the mortality for the half-year, from January to June inclusive, for the present year amounts to 281 deaths in Melbourne and its suburbs alone. Dr. JAMIESON, contrasting Melbourne and its suburbs with the chief towns of England, shows that in 1879 the mortality from fever in twenty of the principal towns, including London, was at the rate of 2·9 per 10,000 of the population; whereas in Melbourne and its suburbs, on the average for ten years, it was at the rate of 7·3 per 10,000.

The Central Board calculates that on an average 3133 persons suffer from typhoid fever in Victoria every year, and that 470 of the cases end fatally; hence they are justified in sarcastically adding the remark that the disease has been very appropriately called "colonial fever." The Central Board then points out what are the "preventable causes," and how they can be "prevented." They first speak of the general apathy and ignorance that exist in regard to the subject, and under the head of "insanitary conditions" they enumerate various details with which our own experience in this country has rendered us familiar—such as improper disposal of nightsoil, contamination of water, milk infection, inaction of local boards, inadequate remuneration and inefficient action of local health officers, badly constructed dwelling-houses, and want of compulsory notification and power of isolation of contagious diseases. The members of the Central Board of Health wind up their sound and practical report by putting a few points prominently in the foreground as necessary to the effectual suppression of typhoid fever: compulsory notification, isolation, prompt removal by special service, destruction of typhoid excreta, general cleanliness, speedy abatement of nuisances, cleansing drains, abolishing cesspits, and protecting water-supply.

No uncertain sound pervaded the message given by Mr. FRANCIS GALTON in his recent popular lectures on Heredity and Nurture at South Kensington Museum. Strictly mathematical and logical throughout, he spoke forcibly out of the fulness of knowledge necessarily resulting from consideration of the life histories he has been collecting during so many years. The whole tendency of the thought actuating his work has been the accurate determination of future possibilities from the data afforded by the present condition. The accuracy of the forecast is, of course, open to question. When examining height, weight, or strength, as in testing mental power or knowledge by examination, we obtain merely an actual measure of the present condition, but we are hardly in a position to predict with certainty what will be the future outcome of that condition. The most that can be said is that the individual possesses so many units of strength, knowledge, &c., and from these his "class place," as compared with other individuals under similar conditions of age, &c., can be readily ascertained. The value is entirely of present limitation. All experience shows that, however soothing a knowledge of our present state may be, yet humanity will never rest satisfied with this, but will press for a prognosis. The three dimensions of life measurement are the past, the present, and the future; of these, undoubtedly the one of greatest interest is that which has yet to be revealed, and it forms a subject of endless speculation, since it necessarily possesses an element of uncertainty. So far as our individual future is concerned, Mr. GALTON's measurements fail to be of very much help; they may determine the quantity, quality, or nature of work that can be performed, estimating the "output" of the machine, and so preventing the twofold waste of latent power and of useless struggle; they may serve as a guide for the healthy development of the young; they may determine the relative position of the individual, class, or nation—that is, they may inform us whether we are living in an age of progress or retrogression; but even while indicating the lines along which progress or retrogression is taking place, they can obviously take no count of the future variations likely to ensue from so-called "chance" external circumstances. They cannot predict that the powers which are latent shall ever be employed; they cannot ensure the continued development of strength or of mental faculties. External circumstances must constantly arise capable of damping the ardour of youthful aspirations, and thus cramping and limiting the "output." The disturbing influences at work to overthrow all calculations are by no means overlooked by Mr. GALTON; but when all is said and done, we have still to make the individual application of a general law, and it is precisely here that the doctrine of averages fails to give very much comfort. The statement that one in seven dies of consumption may not disturb the equanimity of a healthy man, but will fill a hypochondriac with dismay. The sick are very apt to take a pessimistic view of their own ailments, and it is impossible to reassure by statistics which merely record a low rate of mortality. It may be a matter of curiosity to know the probable heights of our future sons and daughters, but this interest will be lost upon those who realise that they have no prospect of a family. In other words, while doctrines of averages may be, and undoubtedly are, correct when estimated from a consideration of a sufficiently large number of facts, they can be of very little value in isolated cases. For purposes

of treatment, every case has to be studied, not merely as belonging to a special class, but for its definite characteristics, which render rational therapeutics something higher and better than a mere record of symptoms to be met by particular drugs. If this were the be-all and end-all of medicine, a carefully compiled dictionary of symptoms and treatment might with safety be placed in the hands of any intelligent but uneducated member of the laity. Statistics have a certain value which we would not venture to deny, but observations of classes will never supersede in value or importance the observation of the individual.

Mr. GALTON has avowedly no concern with existing disease; he looks rather to the future chances of disease, and he estimates these mainly from the family history and the personal condition. These two elements represent the past and the present out of which the future is to be built. If his facts can be proved, and there appears to be no loop-hole for disproof, then there cannot be two opinions as to the validity of his conclusions. He aims at the improvement of the human race by what might be termed the judicious choice of parents. Considering what he calls the enormous "output" of babies per annum, this is certainly a question worth considering. *Eugenism* (meaning goodness in birth and in rearing) is essentially to be desired. By public opinion much can doubtless be done to promote *eugenism*, if the public can only be sufficiently educated to recognise and desire the best means of forwarding such high aims. But this is not the whole battle. Excuses will always be made for special instances of unwise marriages, even though the probable issue may be doomed to serious disadvantages, which can be estimated, from a business point of view, by the extra premium ordinarily demanded by assurance offices when one or other parent has been the subject of disease such as phthisis. Mr. GALTON spoke warmly on this question, perhaps the only aspect of the case he could conveniently present to a mixed audience. Every medical man has probably been consulted about the propriety of marriage under other conditions in which there is a fair prospect of the sins of the fathers being carried as a curse to the next generation. Responsibility presses heavily upon medical practitioners when the results of undue complaisance may be so extremely disastrous. None the less, however, have such questions to be faced boldly; and if, as Mr. GALTON remarked, the pulpit is silent upon the physical influence of one generation upon the next, it is but right to demand speech from those who know the vast importance of the subject in all its bearings. Sanitation is good, and will, we hope, tend to the general improvement of the human race. Gymnastic exercises, when properly controlled and reasonably practised, will also develop capabilities which are but too often stunted and allowed to degenerate as a side condition of our civilised life in large towns. But above and beyond both of these, we cannot too clearly emphasise the national importance of means of checking ill-assorted marriages of persons afflicted or threatened with hereditary complaints. Such marriages too often result from gross ignorance of their probable consequences, and the lesson for the medical profession to take seriously to heart is the need for individual boldness on their part in warning patients of their almost criminal folly at the very time when they may expect congratulations. It will demand self-sacrifice on their part to realise the full bearings of their sad inheritance, and to avoid contributing to the sum of sickness and misery in the world. Our course, however, is clear, and may readily be gauged by consideration of our duties in times of epidemics, when our prime object, the arrest of the spread of disease, shines brightly before us. Knowing, as we do, that certain physical conditions will all but inevitably be transmitted in the event of marriage, we ought not to avoid any occasion of speaking firmly and forcibly to prevent the production of a sickly race.

THERE has been no more satisfactory meeting of the friends of the Hospital Sunday Fund than that of Monday in the Guildhall, under the presidency of the Lord Mayor, of which a full report appears at pp. 1225 to 1227. This is the real testing meeting of the year, in which the Fund takes its rise *de novo*. The Council is created for a year only, and the laws are enacted for a similarly definite time. Unless the consenting churches should see fit to renew their benevolent organisation in favour of the Fund, the whole machinery of Council, laws, and collection would collapse, and with it the £40,000 or so that go to reinforce the scanty coffers of our metropolitan hospitals. The meeting of Monday was not a meeting of the Council, but of the constituency which creates the Council and regulates its action. To this meeting representatives of all the contributing congregations are admitted, and it is on this occasion that any delicate or burning question which affects hospitals, or which exercises the public mind in relation to them, is apt to arise. One or two such questions were raised at the meeting on Tuesday, and disposed of with much good sense and good temper. One of these had reference to the precautions taken by hospitals to prevent the abuse of their charity by persons capable of paying ordinary medical charges The answer of Sir SYDNEY WATERLOW was that this was rather a question for individual hospitals than for the Council of the Hospital Sunday Fund, although it was one to the importance of which the Council was not insensible; also, that with regard to any matters of doubt in the administration or merits of hospitals, the Council had the power, which it frequently used, of asking interviews with managers. Mr. NELSON HARDY raised a question, which he had previously alluded to in our columns, as to the disproportion of the sum raised for the Fund in certain parts of London to that distributed to the hospitals of the same part. The point had been also mooted at one of the summer meetings of the Fund prior to Hospital Sunday, and was properly relegated to the constituents' meeting. Mr. HARDY's speech was all that could be desired. It was a clear and good-tempered statement of the fact that South London gives more to the Fund than it receives. It gives well on to a quarter of the Fund, and it gets back again for its hospitals and dispensaries little more than a twelfth. The speech of the seconder of the motion, the Rev. H. S. SWITHENBANK, was equally reasonable. Both he and Mr. HARDY declared that in consequence of the Council not giving a grant to Guy's grave cases on the south side of the river had to be treated in the Poor-law infirmaries, or recommendations had to be asked from the Council for hospitals at a distance—

a practice which was injurious to the patients. The meeting was so satisfied with the working of the existing laws of distribution that it declined to modify them. But Mr. HARDY expressed himself quite satisfied with an assurance given, on the suggestion of the Rev. Mr. SIMPSON, that the case of Guy's, with its 200 vacant beds and diminished rent roll from agricultural depression, should receive the earnest consideration of the Council. It was not a little remarkable that even Mr. COHEN, a governor of Guy's, while grateful to Mr. HARDY, entirely approved the decision of the Council, and expressed the hope that by careful management Guy's would be able still to preserve its independence—an independence on which it and South London generally are to be congratulated. It cannot be too often repeated that the south of London has been greatly favoured by two largely endowed hospitals, and that the generosity of GUY, who lived more than a century since, has left wealthy men of that district free to distribute their liberality more widely. What is now wanted is a wide imitation of the munificence of GUY on the part of those having or leaving great sums of money. Out of such heaps hospitals should be greatly favoured until every empty bed and vacant ward is filled with the victims of suffering whom hospital rest and skill might restore to comparative health. Small subscriptions are not to be despised, and it is to be hoped that the Hospital Sunday Fund will yet grow to larger proportions, as it has lately increased. It must be remembered that private generosity has in this country to do what is done in other countries by the State or by municipal rates. We cannot more opportunely recall this fact than at the present time, and in a month of winter when the rich and the poor meet together, and when the rich have no pleasure greater than that of mitigating the miseries of poverty, especially when they are emphasised by those of disabling sickness. The Council of the Hospital Sunday Fund is again charged with the high duty of receiving and distributing a great collection, and we wish for it every success, not only on Hospital Sunday, but as a medium of large gifts and legacies to one of the best of all causes.

Annotations.

"Ne quid nimis."

THE ATTEMPT TO POPULARISE MEDICINE.

IT is satisfactory to know that the arguments which have been brought forward in THE LANCET during the past few weeks to combat an ill-considered attempt to teach to all and sundry the "dangerous little" of medical treatment have not been used in vain. That endeavour we then described, and we still regard, as being charged with a power of incalculable injury to the general public whom it presumed to instruct. It ignored entirely what constitutes the very core and essence of accurate and safe practice—the cardinal principle that personal examination and skilled diagnosis are as absolutely essential to the successful use of remedial measures as the remedies themselves. They are, indeed, even more essential, for though a given form of treatment, as expressed in drugs and the like, may be dispensed with and substituted by some other, the fundamental principles which distinguish between the proper and improper use of all such remedies cannot be thus lightly used. They are incorporated with every detail of practice, and requiring as they do, for a just understanding of their significance, a sound knowledge of all the sciences subsidiary to medicine and of medicine itself, it is impossible that they can be duly appreciated or applied by any man save the trained and qualified medical practitioner. We have therefore no hesitation in condemning as hostile to the well-being of the lay population, as it is obstructive to the better purposes of judicious practitioners, the effort of more than one cheap semi-medical journal to secure a credulous public against the need of medical attendance by offering it such fruitless half knowledge as can be communicated through the popular press. It is, we assert, as we have already said in a former issue, impossible to treat the serious responsibilities of practice as if they were mere accessories to general education. Medicine is, probably without exception, the calling for which an accurate and lengthy professional training is absolutely indispensable in order to justify its practical application. It is not to be merely read up from a book or learned from popular lectures. It is no mere joinery or smith's work with tools and material—no matter of common shrewdness or business capacity such as the mind of any capable and industrious man may compass. It deals with structures the most delicate, highly organised, and sensitive, which the mind of the Creator has contrived, with tissues rendered interdependent and intersensitive by the most intricate anatomical and physiological relations. Above all, it takes in hand the great question of life and death, and assumes the high privilege of determining the course of disease. Is all this to be lightly committed to a body of unqualified laymen, simply on the ground that they can read and think? Yet this is the real issue of the late new departure in popular medical journalism. We would not at all fetter the free exercise of opinion in the matter, but would only ask that judgment may be allowed a voice in the minds of those who possess it. Meantime, we think we may congratulate the medical profession on the ground which has been taken up by the great majority of its members on this question. In particular, we feel that the action of the Royal College of Surgeons at its last meeting, when this matter was discussed, calls for universal commendation. On that occasion the decision of the College was shortly given in the following terms: "Resolved that, in the opinion of the Council of the Royal College of Surgeons, it is most objectionable that Fellows and Members of the College should allow their names to be advertised in connexion with medical or surgical subjects in popular journals." We, and at the same the public generally, are thus assured that, whatever misunderstanding has deceived some gentlemen connected with the College as to the practical result of the attempt to supply a popular version of the principles or practice of medicine, in whole or in part the representative members of their body have not been parties to the same error.

DR. KLEIN ON DISEASES OF MAN AND THE LOWER ANIMALS.

THERE was a large gathering of members and visitors at the Epidemiological Society on the 14th inst., to hear Dr. Klein's paper upon "Some of the Infectious Diseases common to Man and the Lower Animals." It was, as the President, Dr. Thorne, remarked, a masterly production, and although of unusual length, it was attentively followed by the meeting. The diseases described by Dr. Klein included cow-pox, foot-and-mouth disease, hydrophobia, glanders, diphtheria, actinomycosis, anthrax, tuberculosis, and scarlet fever, and specimens in illustration of the various microbes of these diseases and their cultures were exhibited. A few points in the paper can only now be alluded to. As to cow-pox, Dr. Klein mentioned the difficulties of its production

by variolous inoculation of the cow, and explained these difficulties by the suggestion that if cow-pox be modified variola, then such artificial inoculation was not the right way to infect the animal, but that the virus should be introduced by the respiratory and digestive tracts. Similarly, foot-and-mouth disease, which is transmissible by contact, and indirectly through milk, is very difficult to inoculate artificially. As to hydrophobia, he pointed out that the conditions of Pasteur's prophylactic were not yet fully determined, that in animals subcutaneous inoculations were variable, and that a material factor in the way of obtaining definite results in man is the wide range of the incubative period, which may bear some relation to the intensity of the virus. The instances of transmission of diphtheria from animals were characterised as being very contradictory; but the bacteriology of glanders and actinomycosis was shown to be fully determined. As to anthrax, the dangers arising from the exposure of the bacilli to the air, when they give rise to the spores whose resistance is so marked a feature, were fully pointed out, and the precautions to be taken to prevent the spread of the disease from infected carcases were detailed. Dr. Klein also showed that when human beings are infected by the bacillus itself the result is a local disease—malignant pustule; but when by the spores, which gain entrance through the respiratory and digestive tracts, the result is mycosis intestinalis, or a general infection, such as is seen in woolsorters' disease. The differences between bovine and human tuberculosis were shown to rest not only in the distribution of the anatomical lesions, but in the size of the bacilli and their distribution in the tissues, as well as in the comparatively greater virulence of bovine tubercle as compared with human, on inoculation of rabbits and guinea-pigs. Such differences may, however, only be due to the difference in the environment of the bacillus; and although there was no direct evidence of the transmission of the disease by the consumption of flesh or milk of infected animals, he thought it safer to reject the use of such a food supply. Allusion was also made to fowl tuberculosis, and the practical reminder given that birds so infected were often well nourished, and therefore liable to be sent to the market. The tubercular nature of scrofula and lupus was held to be conclusively settled. Coming to scarlet fever, Dr. Klein briefly referred to the evidence which had led to the discovery of the micrococcus scarlatinæ in the Hendon cow disease, and said that, when all the evidence was known, critics would be not quite so positive as they had been. He dealt at some length with Dr. Thin's criticisms, which he did not think were based upon sound data; and, as stated elsewhere, declared that the characters of a cow disease now under investigation, which had been affirmed to be the same as the Hendon cow disease, differed from it in many essentials. He referred also to Dr. Edington's discovery of a bacillus, which he maintained could not be held to be proved until the microbe had been found in the circulating blood—e.g., in the heart—before the third day of the attack, and also in the cutis before desquamation. He knew of five different septic bacilli which resembled in their characters the Edinburgh bacillus, and yet had never detected the latter in any of his numerous investigations into scarlet fever. The etiology of this disease was extremely difficult, and no criticism or researches into it should be shunned; only it ought to be made without prejudice, and in a scientific spirit. Prof. Brown, in moving a vote of thanks to Dr. Klein, repudiated the notion that in their inquiries there was any antagonism between the two Governmental departments, and instanced how on this, as on many occasions, each department had sought and received the aid of the other. Professor Axe seconded the vote, which was carried by acclamation. The debate was then adjourned on the motion of Sir J. Fayrer, seconded by Dr. Buchanan, and it was announced that it would be opened at the next meeting by Professor Brown.

THE LATE SIR GEORGE BURROWS.

SIR GEORGE BURROWS, M.D., F.R.S., Hon. Fellow of Caius College, Cambridge, Physician in Ordinary to Her Majesty the Queen, and Consulting Physician to St. Bartholomew's Hospital, died at an early hour on the 12th inst., in his eighty-seventh year. Sir George, after receiving his early education at Ealing, attended for two years the lectures of John Abernethy at St. Bartholomew's Hospital, and at the end of that time proceeded to Caius College, Cambridge, where he obtained a Tancred Medical Studentship and graduated as tenth wrangler in the Mathematical Tripos of 1825. He was elected a Fellow of his College, and Junior Mathematical Lecturer. He afterwards returned to St. Bartholomew's, and having qualified, studied his profession for some time at the University of Pavia, in Paris, and in Germany. During his stay in Italy he had abundant opportunities for watching the epidemic of Asiatic cholera, then freshly imported into Europe; and upon its making its appearance in London in the year 1832, he was placed in charge of the auxiliary hospital established by the governors of St. Bartholomew's to meet the exigencies of the outbreak. This was his first official connexion with the institution. A little later, in 1834, he was appointed the first assistant physician, to take charge of out-patients, and was associated with Dr. P. M. Latham as joint lecturer on the Science and Practice of Medicine. In 1841, upon Dr. Latham's enforced withdrawal from ill-health, he became sole lecturer, and was promoted to the full physiciancy, an office which he held till 1863, when he retired from the acting staff and was elected the first honorary consulting physician. At the Royal College of Physicians he was nominated for all the principal lectureships, and filled in turn the offices of member of Council, Censor, College representative on the General Medical Council, and, finally, with the unanimous voice of the Fellows, President of the College. During his tenure of office as President—namely, in 1874—he was made a baronet. Having been appointed Physician Extraordinary to Her Majesty the Queen in 1870, he became Physician in Ordinary in 1873, on the death of Sir H. Holland. He was a member of the Senate of the University of London, and President of the General Medical Council, and of the Royal Medico-Chirurgical Society, and of the British Medical Association.

TYPHOID FEVER IN FRENCH AND ENGLISH TOWNS.

BEYOND a general impression that typhoid fever is very generally prevalent in France, no official statistics showing the actual mortality from this disease in different parts of that country were, till quite recently, available. The monthly bulletin, "Statistique Sanitaire des Villes de France," which is now issued by the Public Health Bureau of the Department of Commerce and Industry, gives precise information of the monthly mortality from this disease in each of the fifty-one French towns having a population of 30,000 persons or upwards. It will be interesting to compare the mortality from typhoid fever in these French towns with that recorded in the twenty-eight large English towns dealt with in the Registrar-General's Weekly Return. During the three months of July, August, and September last, the deaths from typhoid fever in the fifty-one French towns above mentioned were reported to be 1342, and equal to an annual rate of 0·86 per 1000 of their population. Now, in the twenty-eight large English towns the death-rate during the same period from "fever" (including besides typhoid fever, typhus, and ill-defined forms of fever) did not exceed 0·23 per 1000 of the estimated population, the highest

rates in the several towns being 0·41 in Birkenhead, 0·50 in Salford, 0·63 in Preston, and 0·64 in Portsmouth. Let us now consider, in greater detail, the death-rates from this disease in the French towns. The rates in the four largest towns were 0·58 in Paris (against 0·17 in London), 0·46 in Lyons, 2·31 in Marseilles, and 0·60 in Bordeaux; the mean rate in these four towns was 0·76, against 0·86 in the whole of the fifty-one towns, showing that the mortality from this disease was not so high in the four largest as it was in the other large French towns. If we calculate and compare the rates from typhoid fever in these smaller towns, we find some remarkably high rates. In Havre, with a stated population of 111,277, the deaths from typhoid fever were 30 in July, 108 in August, and 110 in September, or 257 in the third quarter of this year; this gives an annual rate of 9·24 per 1000 of the population. The annual rate during these three months was 1·62 in Rouen, 2·24 in Montpellier, 2·79 in Angoulême, and 2·27 in Avignon. Judged by this sensitive standard—the death-rate from typhoid fever—it is evident that the sanitary condition of a large number of the French towns, other than the largest towns, is eminently unsatisfactory. There is, however, every reason to hope that the publication of this monthly health-bulletin will serve to stimulate public interest in France in health matters, which would inevitably lead to sanitary progress, now so much needed.

THE TIME IT TAKES TO THINK.

MEN in all ages have been familiar with the fact that thought is habitually more active and more speedy in the case of some persons than of others. Whether in the exercise of the imaginative or the reasoning faculty, or in the action of that guiding purpose of life which we call the will, the general truth of this observation has been always evident. As we come to a higher stage in human development, with its corresponding increase of intelligence, it is not remarkable that the mind should seek to subject itself to a closer scrutiny, and to catalogue more exactly the results of its introspection. This has happened with regard to the question before us. In particular has the period which intervenes between the impact of impressions from without and the visible response of the will in muscular action or other mode of expression become of late years a subject of careful investigation. Since the first quarter of the present century, when the comparative speed of visual observation was chronicled in the case of the astronomers Bessel and Struve, the varying rate at which the mind responds to the numerous impulses which reach it from the outer world has been measured with some exactitude. Most of our readers are familiar with the term "reaction" period. They will recognise it as expressive of the whole interval between the action of a stimulus, of whatever kind, and the visible response of the individual affected by it. They will also perceive in the period of "reduced reaction" that interval shortened by the space of time allotted by experimental precision to the transit of purely sensory and motor impulses — the period, namely, which changes the one into the other, and represents in the mind the average time required to think and to will. Discoveries not now very recent have taught us that the ordinary duration of this period is, in the case of simple impressions, about one-tenth of a second, and that where the impression is rendered complex by affording the mind a choice of sources to which it may be referred, the time required is increased by about another tenth of a second. An equally interesting side of the subject, however, is that which exhibits the force of impressions as modifying the rapidity with which they are accepted and, in familiar phrase, digested by the mental centres before they are visibly transformed into action. The rapidly energising power of sudden fear, joy, hope, and desire is thus explained. So likewise the contrary effect of some of these emotions may be explained as being due to a stunning effect produced by the causes which give rise to them upon the mental centres. It is also manifest that the energy of the mental reaction must largely depend upon the reserve of force in those centres at the time of activity. They must not be overtaxed by prior stimulation and excessive use; if their response is to be a vigorous one, they must be well nourished and have seasonable rest. There is therefore, even in these psychological minutiæ, a moral for the times—namely, that if we would preserve our mental efficiency amid the changing pressure of circumstances, we must by occasional recreation withdraw the mind from too continuous application.

SMALL-POX AT LEICESTER.

SINCE last week another of the persons reported as being placed in quarantine has developed a mild attack of small-pox, making the seventh member of the family who has contracted the disease. With the exception of the youngest, all were vaccinated, and all these six have had an attack of the mildest description. One other case has occurred in the town, this being a young man who had visited the infected house, and as he was one of those who had been under daily observation he was removed to hospital upon the earliest appearance of the disease. This patient had been vaccinated, and the attack is a very mild one. On Saturday, Dec. 10th, another case was discovered just outside the limits of the borough, and this patient was promptly removed to the small-pox hospital, and his wife and four children placed in quarantine wards. This man appears to have contracted the disease at Sheffield. On the 14th yet another case, a man, was discovered in the same district of the borough as that in which the former cases occurred, though the connexion between these several attacks has not been traced. Ten cases are now in hospital. Owing to the almost entire absence of infantile vaccination in the town, some little difficulty was experienced in promptly obtaining vaccine lymph for the revaccination of those whom it was deemed advisable to revaccinate.

ACUTE THYROIDITIS.

THE thyroid gland may be the seat of an acute inflammatory enlargement running a definite course without suppuration and terminating in perfect recovery. In these clinical characters we find a resemblance to ordinary mumps. Dr. Barlow read a paper on "Acute Enlargement of the Thyroid Gland" at the last meeting of the Clinical Society, and he related the case of a little boy, aged three, in whose thyroid gland an attack of inflammation occurred, which lasted altogether about a fortnight. The child had just previously suffered from erythema nodosum on the legs, and it was whilst recovering from this affection, and after having been out in the park, that the thyroid enlargement commenced in association with a nasal catarrh, of which the chief symptom was a discharge of thin glairy mucus. Reviewing the literature of the subject, Dr. Barlow arrived at the conclusion that his case must be regarded as coming under the "idiopathic" class of Luca, and although there had been erythema nodosum, still the absence of arthritis and heart disease or other genuine rheumatic manifestations formed a warranty for not considering the case as of true rheumatic nature. Some observers, chiefly abroad, have noted a rheumatic swelling of the thyroid having a definite relationship with well-founded rheumatism; and Dr. Angel Money quoted a case of this character from his own experience. Mr. James Berry narrated many interesting particulars concerning acute enlargement of the thyroid gland; and some of these having a fatal ending might tally with cases like the one narrated

by Dr. Barlow, in which the enlargement at one time had a threatening aspect. Nevertheless, the definite cycle run by cases of rheumatic and idiopathic descriptions must, we think, be held to differentiate them from ordinary goitre, in which the mode of commencement may be acute, but the course always chronic, and showing recurrent tendencies. The perusal of Dr. Barlow's paper will raise the reflection that the causation of acute thyroid enlargement is as imperfectly known as it is seemingly various.

CONSTRUCTION OF THEATRES.

IT is a hopeful sign that the Royal Institute of British Architects has devoted an evening to the discussion of the important subject of the construction of theatres. The construction of theatres must be similar in principle to that of all buildings devoted to large public gatherings, and, as the right of public meeting is just now much exercised by the British public, the proper construction of the rooms in which these meetings are held is of paramount importance from the treble point of view of convenience, health, and safety. Mr. Ralph Nevill, who furnished the paper upon which the subsequent discussion was based, seems to have given much thought to his subject, and many of the points upon which he touched were treated with marked ability. As far as the question of convenience is concerned, Mr. Nevill rightly insisted that the triangular form, with the stage at the apex, was best, as affording an uninterrupted view to each member of the audience. The little matter of placing the seats in the stalls alternately, so that the persons in the back row can see between those in the row in front, is from the point of view of comfort most important. The remarks as to the dangers of long straight staircases were certainly true, and it should be the aim of architects to lessen the length of staircase as much as possible. It is probable that in case of panic from fire there is less danger in ascending an easy gradient than in descending. The importance of this point is very great, but we do not notice that Mr. Nevill touched upon it in the course of his paper. We are glad to see that Mr. Nevill recognises the fact that, although the electric light does not foul the air of the theatre to the same extent as gas, it does not assist in the ventilation as the latter illuminant can be made to do. The admission of fresh air and the outlet of foul air, are, after all, the most important points in the construction of theatres, and we are convinced that the draughts, which are the chief characteristic of the modern theatre, are certainly due to the fact that architects do not attack this point with sufficient courage, and the air not being admitted in sufficient quantity in the right places, it must rush through the wrong ones and thus cause draughts.

WHAT CONSTITUTES COMPETITION AFTER THE SALE OF A PRACTICE?

MR. JUSTICE CHITTY has just delivered judgment in a case of dispute between the buyer and seller of a practice concerning the subsequent attendance of patients within the prescribed area by the vendor, who, notwithstanding that the agreement which he signed contained a clause providing that he should not "in any manner whatsoever, directly or indirectly, enter into competition with" the purchaser, thought that so long as he did not solicit practice he had still a right to attend any of his old patients who might desire it. In support of this view, it was stated that these patients preferred him to the purchaser, and that, indeed, they would not have sent for the latter, who was the plaintiff in the action, under any circumstances, so that he really lost nothing, and the defendant, the vendor, had not entered into competition with him. To this the judge very properly remarked that, though these patients might have preferred the defendant to the plaintiff, it was impossible for anyone to say that under no conceivable circumstances would he send for a particular medical man, also that the competition, if not active and direct, was indirect, and was thus of a kind which was definitely excluded by the covenant contained in the agreement. This view was strengthened by the existence of a peculiar clause in the agreement, by which the vendor was entitled to retain certain patients whose names were specially marked in a list, and consequently by inference he was prohibited from retaining any others. Judgment with costs was given for the plaintiff—i.e., the purchaser,—and an injunction issued to restrain the vendor from infringing any more upon his rights.

MENTAL AFFECTIONS AND AURAL DISEASE.

SUFFERERS from noises in the ears are sometimes greatly distressed by the tinnitus, and cases of suicide have been ascribed to sheer desperation resulting from an inability to get relief from the everlasting noise. Ménière's disease and some cases of epilepsy are attributed to disease in the ear setting up changes in the central nervous system. The question is still unanswered whether actual mental disease, mania or melancholy, may not be produced by aural disease, apart from any annoyance due to tinnitus or deafness. Coarse diseases, such as otorrhœa, suppuration in the mastoid cells, perforations of the drum, polypi, waxy concretions and foreign bodies, are easy of recognition and can be appropriately treated generally by simple surgical methods. But nervous affections due to irradiation from the obscure aural mischief are not always so open to treatment, because the changes in the ear are more subtle, but none the less real. Sometimes an obstruction of the Eustachian tube may be the chief cause of tinnitus, owing to unpoised atmospheric pressure leading to excitation of the labyrinth and acoustic nerve by actual compression. M. Boucheron believes that, besides vertigo, epilepsy, and other nerve troubles, mental disease may be originated, and simple inflation of the middle ear has been followed by a cure.

"ARSENIC CANCER."

As the mind is naturally caught by the curious and by the threatening, so we cannot avoid alluding to the subject which Mr. Jonathan Hutchinson raised at the last meeting of the Pathological Society. We fear, however, that at present further light is required before our knowledge can be considered satisfactory. Many amongst us having a strong belief in the efficacy of arsenic know well its power to produce disease; but, judged from the discussion at the Pathological Society, some do not appreciate the influence of arsenic on the skin. The skin *par excellence* is the tissue on which arsenic has perhaps its most marked influence; besides improving, it may spoil the complexion, rendering it muddy and unsightly. This latter action is also manifested in all parts of the skin, and may lead to the development of soft corns, not warts, in the palms of the hand and soles of the feet, where a roughened condition also grows up under the influence of this most potent drug. So far Mr. Jonathan Hutchinson goes with safe step on sure ground, but the next move onwards towards the belief that arsenic can produce epithelial cancer is less secure. It cannot be said outright that arsenic may be the chief cause of epithelial cancer, but we think the position almost impregnable if it be maintained, as, indeed, Sir James Paget and Mr. Hutchinson strongly held, that arsenic may prove one of the causes of epithelial cancer in certain constitutions. Nevertheless, arsenic will not fall into disrepute, for

at the worst it is only when continued for many years in very full doses that the drug is alleged to have so deleterious an action. Such a revelation, if it ever comes, will only make medical practitioners more careful in prescribing arsenic.

FEVER IN LONDON.

SCARLET FEVER is continuing to decrease in London, and the Metropolitan Asylums Board's hospitals are relieved of the pressure of the last few weeks. The Board may therefore look forward to a period of comparative rest during the early months of next year, unless circumstances should show the necessity for them to provide for some other malady than that which has recently taxed their resources. Expressions of approval have been during the last week bestowed by the press upon the Managers for the energy they have shown in extending their accommodation in proportion to the demands made upon it, and it must be admitted that these encomiums have been well deserved. Londoners have chosen to treat cases of scarlet fever in hospital, and the only Board which could undertake this duty has freely exercised its powers to meet their requirements. At the same time, the London Fever Hospital, which is largely dependent upon the support of a charitable public, has been supplementing the work of the Metropolitan Asylums Board by providing for patients of a somewhat higher social grade than those which usually seek admission into the hospitals of the Managers. Small-pox shows a tendency to obtain a footing in the eastern districts of London, and during last week one person suffering from this disease was removed to hospital from Bethnal-green, and two from Poplar. The amount of prevalence of enteric fever remains much the same, fifteen cases having been removed during the week. Typhus has again appeared, a lad aged sixteen developing this disease in the district of Limehouse. Hitherto the character of the weather has not favoured the production of typhus, and it may be hoped that the comparative absence of the disease from London up to the present time augurs that the winter will pass without any special prevalence.

THE FATALITY OF TIGHT-LACING.

IN our issue of June 25th we drew attention to the abuse of tight-lacing, which possesses for many wearers of the corset such a fatal attraction. Shortly before that date an inquest held upon the body of an elderly female revealed the fact that death had resulted from this practice. Only a few days ago a nearly similar instance was recorded. In this case, a young lady who suffered from fatty infiltration of the heart died suddenly while dressing hastily after a hearty meal. Here also tight-lacing played a prominent part in determining the fatal result. We had hoped that sensible reflection upon the bad effects of this injurious custom, as illustrated in the history of a former generation, might have impressed upon the would-be fashionable the obvious teaching of experience. The cases just quoted, however, are probably but a representative minimum of a larger number which do not come before the coroner's court, and the evil they exemplify, though certainly less general than of yore, still continues to act as a potent cause of ill-health. It is hardly necessary to repeat at length the causes which render this abuse of the corset so effectively mischievous. Pathologists have a clear perception of all that is implied in its doubtfully graceful discomfort. The displacement of almost all the organs in the chest and abdomen, the compression of several of these upon the heart and great vessels, and the restriction of breathing space which is thus entailed, have in their eyes no beauty, but the sad aspect of feebleness wilfully acquired, with the promise of a lifetime as brief as it is practically useless.

HEREDITY AND NURTURE.

IN his third and concluding lecture at South Kensington, Mr. Galton dealt with the influences of various kinds of nurture, training, and occupation on the average vigour, longevity, and disposition of large classes of persons. He considered that the surroundings influence future generations rather than the present. With a diagram he indicated the relative proportions of early and late marriages in Germany, England, and European Russia, showing the enormous preponderance of late marriages in the first, and of early marriages in the last; considering that, when other things are equal, early marriages are followed by large families, he led up to the amusing conclusion that the "output" of Russian babies reached a thousand a day. From Dr. Ogle's report upon the death-rates of varying ranks, he illustrated his remark that the quality of stock varies with the status of the parents. He then proceeded to the unforeseen and wide consequences of apparently small reforms, instancing the smallness of families in France since the law regulating the equal division of property. In strong terms he then dealt with the prevailing want of statistical imagination and our consequent carelessness as to undoubted social duties, considering that the marriages of phthisical persons should be prevented by public opinion, if not by more stringent measures. He thought that obvious sanitary neglect should be treated as manslaughter, and that legal restraint should check the pursuit of any line of conduct whose average ill effect has been ascertained. In approving terms he referred to the establishment of professorships of physical culture at Amherst and Harvard Colleges in America, and quoted from a correspondent at Wellington the opinion that the "cultivation of man as a whole, and not only in part," should be encouraged by the bestowal of degrees. In New Zealand it would appear that a prize has already been awarded to the "best-made man." Of the value of gymnasia in the hands of medical men rather than of professional athletes, and of the importance of more rigid school hygiene, he also spoke enthusiastically. In conclusion, he gave a brief retrospect indicating his belief in the theoretical possibility of raising the standard of the race by a study of the influences that tend to *eugenism*, a word implying goodness in birth and in rearing.

THE CASE OF LINNELL.

THE death of Linnell, which took place at Charing-cross Hospital, was the result of pyæmia, consequent on a compound fracture of the femur into the knee joint. The injury was sustained during the Trafalgar-square demonstration of Nov. 20th. The coroner's jury found "that there was nothing to show how the fracture was caused," and considering the conflict of testimony given at the Court, this portion of their verdict commends itself to one's approval. Several witnesses deposed that the deceased never varied his statement that the injury was caused by a fall, whilst others asserted that he attributed it to a furious charge of the mounted police. As regards the discrepancies in the medical evidence, we must note that the post-mortem examinations were made at different dates, and, considering the changes likely to occur in tissues affected by injury and disease, the various statements may be reconciled. That a compound fracture of the femur, in which the soft tissues must have been extensively lacerated, should be accompanied by the appearances of bruising is only natural, and we hold that it might be extremely difficult to determine the ultimate cause of the bruises. There was certainly nothing in the medical evidence to convince us that the bruises were produced by the kick of a horse, although a fracture of the femur implicating the knee joint was more likely to have been caused by direct than by indirect

violence. The coroner exercised a wise discretion when he decided to close the inquest with the evidence before him, for it is not likely that further medical investigation would have thrown additional light on the case.

SMALL-POX IN THE PROVINCES.

WE are now approaching the period when, in the ordinary course of events, an epidemic prevalence of small-pox may be expected. In most of our former outbreaks the provinces have suffered subsequently to the metropolis, but this winter a number of small-pox centres have been established in various parts of the country. The epidemic in Sheffield has acquired very serious proportions, and it has become diffused in many instances around the borough. The guardians of adjoining unions have, however, established special conveniences for vaccination, and it is to be hoped that these may aid in staying further diffusion of the disease. In November 180 fresh cases were admitted into the Winter-street Hospital, and the Corporation are complaining that the Local Government Board do not, with sufficient promptitude, aid them in establishing a separate temporary small-pox hospital in a more isolated position. Loans for such purposes cannot be obtained except after a certain statutory interval for notices and a public inquiry, and even if there has been no other or unnecessary delay, this alone must prevent hospitals erected in an emergency from being ready for an existing epidemic. The fact is, that to all having recent information as to the behaviour of urban small-pox hospitals it has been obvious that the borough infectious hospital in Sheffield was a wrong place for the aggregation of small-pox, and it is a pity that this fact was not faced before the present urgency arose. Apart from Sheffield, suspicious occurrences of small-pox have taken place in many parts of the provinces, the South Yorkshire colliery districts being specially implicated. But in the neighbourhood of Bristol a substantial and serious epidemic is in progress. Barton-Regis seems to have been first affected, and the authorities unfortunately attempted to deal with it by means of the very imperfect arrangements existing at the workhouse, the result being a most unfortunate spread amongst the unhappy inmates of the union house Then the authorities took in cases from Bedminster, which made matters worse; and at the present moment they appear to be at their wits' ends to know what to do. We trust the true lesson may be learnt—namely, that accommodation for small-pox amongst all classes must be of a special character, unless sanitary authorities want to diffuse the disease by aggregation of the sick. So far, 105 known cases have occurred within the city and county of Bristol, and the Corporation are doing what they can, by isolation and otherwise, to grapple with the disease.

ALLEGED CASE OF DIPHTHERIA IN A DISSECTING ROOM.

SOME little excitement has been caused in Lyons by the death of a medical student from diphtheria, which, according to the newspapers, he contracted from a subject he had been engaged in dissecting. To this assertion the dean of the Faculty wrote a distinct denial, stating that the bodies of patients dead of diphtheria are never sent to the dissecting room. This, however, did not satisfy everybody, for a rejoinder appeared, signed "A group of *externes*," declaring that the child whose body had been dissected had died of croup. According to *La Province Médicale* the cause of death was meningitis. Though the practitioner who sent the case to the hospital had diagnosed it as one of diphtheria, the house physician had been unable to find any evidence of diphtheria, and the little patient died the same night that it was admitted. Even if the child had had diphtheria, *La Province Médicale* thinks it is extremely doubtful whether the theory of infection could be maintained, for it is not by any means certain that dead diphtheritic membrane can convey infection, especially after the lapse of eight or nine days, which was the period that had intervened between death and dissection. In addition to this, the unfortunate student had not touched the thorax or throat, having been engaged merely with the brain.

THE HOT-AIR BATH IN THE TREATMENT OF ANTHRAX.

IN the course of a prolonged coroner's inquiry into a fatal case of woolsorters' disease, which occurred recently at Bradford, Dr. Bell, who had charge of the patient, stated that he had him removed to the infirmary in order that the treatment by hot-air baths might be satisfactorily carried out. This line of treatment is based on the fact that the bacilli anthracis are destroyed at a high temperature. Dr. Bell stated, in reply to questions by the coroner, that if a case were sufficiently early treated by hot-air baths there would be good hope of recovery; indeed, in the case in question he was unable to cultivate the bacilli found in the blood, and concluded that they had been killed. With respect to this point, it has been shown by Davaine and others that the development and spore-producing power of the bacillus anthracis is hindered at a lower temperature than will actually kill the adult microbe. Davaine found that non-diluted anthrax blood required subjection to a temperature of 51° C. (123·8 F.) for a quarter of an hour before it lost its virulence; but Dr. Bell's statements indicate that a much lower temperature will suffice—viz., 107° or 108° F.

NURSES.

NURSES have good reason to believe that their calling and their class are looking up. There is perhaps a little fear of their being too much "nursed," and we are not surprised to see indications that they are conscious of this risk, and showing a desire to be a little more independent. There certainly is now a large number of women with sound knowledge of nursing work and of what is wanted to place the workers in a sound and satisfactory position before the public; and it would seem well that, if nurses are to be educated and organised, they should debate the question of their own education and organisation with as little interference as possible. We presume it is with some such views that a number of ladies met on Wednesday, Dec. 7th, on the invitation of Mrs. Bedford Fenwick, late matron at St. Bartholomew's Hospital, to discuss the advisability of forming an association for the mutual help of all women engaged in nursing the sick and for the advancement generally of their professional usefulness, both to medical men and the public. The representative nature of this movement may be gathered from the list we publish in another column of ladies who have consented to act on an executive committee of a British Nurses' Association, which it was resolved to form. It is premature to express a definite opinion on the views of the matrons and others assembled at the residence of Mrs. Bedford Fenwick, but they may confidently rely on the support of the profession in any well-conceived plan for raising the education and status of nurses. Nobody can be satisfied with the existing state of things. Many of the present nurses, though immensely more efficient than their predecessors, are still inadequately trained, and show strange limitations of knowledge and education even in their peculiar work. The public are ready to pay, and are actually paying, considerable sums for professional nurses, and it is only fair that nurses should be able to provide guarantees of efficiency. A short time ago we commented on the importance

attached to nursing in American cities. In almost all of these a register of nurses is kept, and in most cases a two years' hospital training is required as a condition of admission to the register. There is an extensive feeling that some such system of registration must be established here. At the meeting of ladies on the 7th inst. a feeling was expressed that the training must be real, and must be more prolonged than in many of our nurse-training institutions. The object of these ladies, indeed, is to command the respect of the medical profession, and through it of the public. There is reason to believe that they have already secured the support of many leaders in the profession. It is probable, however, that both the question of nurses and of midwives will soon have to be considered by the Legislature, and that some authoritative medical body must have legal power to deal with them in the public interest. We hail the meeting referred to above as a sign that we shall soon have an organised system for the education and certification of nurses.

BACTERIOLOGY OF SMALL-POX.

PROFESSOR J. HLAVA describes in the *Sbornik Lekarsky*, a Bohemian medical journal, the results of some microscopical and bacteriological researches he has lately made on the contents of variolous pustules and the blood and viscera of small-pox patients. In four out of five cases streptococcus pyogenes was found in the blood and viscera. In the skin and in the pustular contents there were found, in addition, staphylococcus albus, saccharomyces (Proteus Zenkeri), and staphylococcus citreus cereus. The identity of the micro-organisms found with pyogenic microbes was demonstrated experimentally, but none of them produced small-pox. Professor Hlava believes that the variolous poison produces characteristic changes in the epithelium of the skin, and that in consequence of these pyogenic cocci invade the dermis, being carried thither by the circulation, which they enter through abrasions of the surface of the pharynx and larynx, which, he says, are invariably to be met with in small-pox patients. Thus variola would appear to be, in the majority of cases, a disease due to a mixture of infections, variolous and pyogenic, the latter class of infection entering the body subsequently to the former.

COMPENSATION FOR DEFECTIVE DRAINAGE.

DAMAGES for injury brought about by defective sanitary states of dwellings are by no means common, and for this reason alone it is worth recording that towards the close of last month £100 were awarded as compensation to a gentleman who had lost his daughter by reason of the defective drainage of the house he occupied. We are not aware of the particular circumstances of this case, but as a general principle we think that the responsibilities of landlords who seek to make gain by letting houses which are, in point of health, unfit for human habitation need to be strongly pressed home; and every such case as the above aids in this direction.

STRANGE INCIDENT AT CORDOVA.

LAST week Dr. Middleton of Scarborough, who was on his way to Tangier, halted with his companions at Cordova. Leaving his fellow travellers at the hotel, Dr. Middleton, accompanied as a guide by a gipsy, visited the cathedral, than which there are few more attractive buildings in the world, for when Cordova was the capital of the Moorish realm in Spain it was the great mosque of the city. He had begun to descend the narrow winding staircase of the tower, followed by the gipsy, when suddenly the latter attacked him from behind, nearly strangling him with one arm, while with the other hand he took two dollars from his intended victim's pocket, and wrenched his walking stick away. Dr. Middleton then drew his revolver and fired two shots over his shoulder, one of which entered the gipsy's mouth, the other taking a downward course through his body. The shots were fatal, and, covered with blood, Dr. Middleton descended and gave notice of the occurrence to the police, who, on their arrival at the scene of the tragedy, found the dead thief still holding in his hand the stick and the dollars. Dr. Middleton was arrested, but has since been released on bail. The gipsy had, it appears, the worst of reputations, and a most significant fact is that he was companion two years ago to an Englishman visiting the cathedral tower, who was found dead at its foot. The case was then supposed to be one of suicide, but, looked at in the light of Dr. Middleton's experience, it is now viewed differently.

THE PORT OF LONDON.

DR. COLLINGRIDGE reports favourably on the health of the port of London during the first half of this year, and although cholera has been again prevalent on the Continent, no cases were found amongst the shipping. He is evidently profoundly discontented with the action which is being taken by the Metropolitan Board of Works professedly to deal with the nuisance arising from the filth-laden river, and he declares that any so-called deodorisation of the sewage must be useless in the absence of precipitation. Referring to the isolation of the infectious sick, he rightly regards it as an anomaly that the Public Health Act should enforce removal to hospital for preventing the spread of disease to others, and yet make it permissible to charge the patient for the cost of his maintenance in hospital. Hence he advocates the abolition of all such payments, whether from the sick or the masters of vessels.

DONDERS MEMORIAL FUND.

AT the last meeting of the Ophthalmological Society a report was read from the Council recommending the appointment of a committee of its members to act in agreement with delegates of other scientific societies in establishing a "Donders Memorial Fund" in this country. The object of this fund is to assist in commemorating in some way the name of Professor Donders, who has done so much for biological science and ophthalmology; and the occasion chosen is his necessary resignation of his chair in the Utrecht University on attaining his seventieth birthday. The committee appointed by the Society consists of Mr. J. W. Hulke (president), Dr. W. M. Ord (treasurer), Messrs. Seymour G. Sharkey and R. Marcus Gunn (secretaries), Messrs. Jonathan Hutchinson, Henry Power, and W. A. Brailey, with power to add to their number.

TYPHOID FEVER IN YORK.

THE city of York has now for some time past had a certain notoriety in connexion with an excess of typhoid fever, and according to Mr. North, the medical officer of health, there were during the third quarter of this year just twice the number of attacks that prevailed during the corresponding period of last year. It is now long since Sir John Simon wrote on typhoid fever as the typical filth disease, and this recurring excess of the disease in York is unquestionably associated with an excess of filth about the houses of the Yorkshire city. Indeed, referring to both typhoid fever and diarrhœa, Mr. North plainly tells his sanitary authority that they must choose between the abolition of foul middens, privies, and filth receptacles on the one hand, and the infliction of periodic attacks of these diseases on the other. It is to be hoped that the York public will themselves so far appreciate the importance of the subject as to place on

their Town Council those who object to the retention of antiquated methods of fouling the air about houses, and who will do all they can to maintain a higher standard of health among the community whom they represent. In the meantime a committee has been formed to ascertain the results of action already taken in other large towns to remedy similar evils.

PORTRAIT OF SIR WILLIAM JENNER, BART., K.C.B.

WE are enabled to state that the sum already subscribed will more than meet the expense of the portrait and the two replicas, one of which is to be presented to the Royal College of Physicians, and the other to University College, to which Sir William Jenner was for many years physician. The committee purpose to keep open the subscription list a short time longer, and should the surplus at their disposal prove sufficient, it is their intention to have the portrait engraved and to present a copy of the engraving to each subscriber The treasurers are Charles J. Hare, M.D., 15, Manchester-square, and George Pollock, Esq., 36, Grosvenor-street.

ALEXANDER'S OPERATION IN BELGIUM.

DR. THIRIAR of Brussels, in a note in *La Clinique*, records the case of a lady who, having prolapsus uteri, and being unable to wear pessaries, as they always occasioned a good deal of suffering, willingly accepted the proposal of Alexander's operation of shortening the round ligaments. This was accomplished without serious difficulty, rigorous antiseptic precautions being taken; but Dr. Thiriar, finding the resistance to traction considerable, thought it wise to limit the shortening to about five centimetres, though Alexander mentions ten to twelve centimetres as being the amount to be aimed at. The patient made an excellent recovery, being catheterised regularly at first, and being kept strictly in a recumbent posture for three weeks. Dr. Thiriar mentions that this operation was first proposed and practised on the cadaver by a Belgian surgeon, Professor Deneffe of Ghent, in 1864, who made one abortive attempt to perform it on the living subject. It was not till 1881 that Dr. Alexander proved its feasibility.

THE COMPULSORY NOTIFICATION OF INFECTIOUS DISEASES.

THE Town Council of Wigan are seeking powers from the Local Government Board to borrow money for the purpose of building a new infectious disease hospital, or, as some of the members of the sanitary committee are pleased to call it, a "sanatorium." At the same time, in the same provisional order, they seek powers "to alter and amend the Wigan Improvement Acts of 1874 and 1880, enabling the corporation to make bye-laws compelling the notification of infectious disease within the borough, or otherwise enforcing such notification." This clause caused some discussion in the council chamber last week, because it was felt by some members to be "interfering with the liberty of the subject," and by others that it should not be rushed through without ample discussion by the ratepayers, and that also information should be sought from other towns as to the working of compulsory clauses. It was, however, decided, by fourteen votes to ten, that the corporation should go on with the provisional order as it originally stood, the mayor making an eloquent speech in favour of the same, pointing out that the death-rate of the town was conspicuously high, and that other towns in which compulsory notification was in force had stamped out, or nearly so, infectious disease. How this will be done in Wigan, provided the authorities get these powers, is difficult to say, for at the present time they have no hospital with anything like adequate accommodation, and it will take at least twelve months before one can be built and equipped, for a site for the same has not been found or finally fixed upon. The last time that Wigan sought these powers the opposition was so strong that the Bill had to be abandoned. If Wigan is to obtain such powers, which no doubt are beneficial for curtailing epidemics of infectious diseases, the town should at once equip a proper hospital for means of isolation, and should also throw the onus of notification on to the householder.

THE HEALTH OF THE CROWN PRINCE.

OWING to an unfavourable change having, we regret to learn, taken place in the laryngeal symptoms of his Imperial Highness the Crown Prince of Germany, Sir Morell Mackenzie has been summoned to San Remo. He left London on Wednesday morning, and would arrive at his destination on Thursday night.

CHRONIC GLANDERS SIMULATING SYPHILIS.

DR. SAKOTSKI, writing in the *Meditsinskoe Obozrénie*, describes the case of a young soldier who suffered from ulceration of the palate, which extended into the nasal cavity, and destroyed the inferior turbinated bones. This was followed by a tumour of the eyebrow, by pains in the knee and ankle, suppuration of the left ear, and a metastatic abscess on the back of the right hand. There was at times some evening pyrexia. The case was looked upon as probably syphilitic for about two years. Then nodules and œdema began to appear on the face, and it was believed that it was glanders. After death, which was due to exhaustion, Dr. Vigandt made a microscopical examination of sections of the nodules, and also examined the ichor of the ulcerated surfaces, finding bacteria resembling those described by Löffler and Schutz, but he was unable to prove them to be the true cause of glanders.

DEATHS OF EMINENT FOREIGN MEDICAL AND SCIENTIFIC MEN.

THE deaths of the following foreign medical and scientific men are announced:—Dr. Max Michael Eulenburg, founder of the well-known Orthopedo-gymnastic Institute in Berlin, at the age of seventy-six.—Professor Arthur Christiani, of the Physiological Institute of Berlin, a great authority on the physiological action of electricity, on the physiology of the nervous system, and on that of the sense of hearing.—Dr. K. Langer, Professor of Anatomy in Vienna.—Dr. Joh. Alexander Chrastina, dean of the Doctoren-Collegium of the Medical Faculty of Vienna.—M. Rambaud, assistant Professor of Clinical Medicine in the Faculty of Lyons.—August Stromeyer, one of the oldest German chemists of eminence, in the eighty-first year of his age.—Dr. Carl Passavant, the African traveller at Honolulu, at the age of thirty-three.—M. le Dr. Giraudet, Professor of Anatomy in Tours.—Dr. A. de Almeida of Oporto.

THE WOMEN'S JUBILEE FUND AND NURSES.

THE public will anxiously await the decision of the Committee appointed by Her Majesty for working out a scheme for improving the condition of nurses labouring among the sick poor. The scheme is being matured by the Duke of Westminster, Sir James Paget, and Sir Rutherford Alcock. Nursing the poor is a branch of work of the very highest importance, and is largely done by ladies, who sometimes of their own limited means subscribe generously to the maintenance of the Associations in connexion with which they work. The vital points to be ensured are that the money shall be so placed as to command the confidence of the public and benefit the sick poor, as well as those who nurse them in their straitened homes under every disadvantage.

FOREIGN UNIVERSITY INTELLIGENCE.

Kazan.—Dr. V. Razumovski, *privat-docent*, has been promoted to the Professorship of Operative Surgery.

Lyons.—The professors of the four Faculties have arranged to issue a quarterly volume of Proceedings. In this way it is hoped that the claim of Lyons to possess a complete and autonomous university may be kept before the public, and that the authorities in Paris, whose regulations are looked upon as rather clogging the wheels of the provincial Faculties, may be induced to concede to some extent the principle of decentralisation. The special point of trouble at present is connected with the "modified Bachelor of Science" examination, which all medical students are compelled to pass.

Marbury.—The Professorship of Surgery which will become vacant at the end of the current winter session is likely to be offered to Professor Braun of Jena.

SIR JOHN PULESTON, M.P., presiding on the 13th inst. at the annual meeting of the Royal Albert Hospital, Devonport, said he regretted the action of Parliament in repealing the compulsory clauses of the Contagious Diseases Acts, and announced his intention at the commencement of the next session to introduce a Bill in Parliament entitled "The Retention in Hospital Bill." It would apply only to women who came to the hospital voluntarily, but would compel them to remain there until they were cured.

AN inquest was held in Marylebone, on the 7th inst., concerning the death of Mr. J. G. French, F.R.C.S., when the jury returned a verdict of "Death from syncope." The deceased, who was eighty-three years of age, was found dead in bed on the 4th inst.

IT is announced that the successful series of *Tableaux Vivants* lately exhibited at the New Club, Covent Garden, will be repeated at 3 P.M., on the 22nd inst., for the benefit of the funds of the Middlesex Hospital.

WE have received a copy of the petition of the Master Wardens and Society of the Art and Mystery of Apothecaries of the City of London, which we hope to be able to reproduce in our next issue.

DR. H. W. G. MACKENZIE, resident assistant surgeon to St. Thomas's Hospital, has been appointed Medical Registrar.

SOME OF THE

INFECTIOUS DISEASES COMMON TO MAN AND THE LOWER ANIMALS.[1]

BY E. KLEIN, M.D., F.R.S.

THE following is a brief abstract of the more interesting portions of this paper:—

Jenner's views as to the relation of human variola and cow-pox are so well known that it is unnecessary for me to enter into them, and likewise Ceely's classical papers in the Transactions of the Provincial Medical and Surgical Society and Dr. Badcock's results have more than once been discussed and commented upon. Ceely, by direct inoculation of human variola into heifers, has succeeded in two instances in producing vesicles identical with those of the natural cow-pox, and in transmitting the lymph from them into generations of human beings as vaccinia; he has thus proved that vaccinia is a modified human variola, having obtained this modification by its passage through the cow. Now it is known that the French Commission under Chauveau arrived at a different conclusion. They were unable to produce such a result as Ceely did by inoculating calves and heifers with human variola; in some instances they assert to have produced a papular eruption at the seat of inoculation; the matter of such papules when inoculated into human beings produced, again, variola. They concluded from these experiments that human variola is transmissible to the bovine species as variola, but does not produce vaccinia. That this conclusion does not necessarily follow from the experiments of the French Commission has been very ably argued by the late Dr. Seaton and others. All that can be said of the work of the French Commission is that their attempts to produce vaccinia by means of human variola were negative. I can fully appreciate these negative results, because some years ago I have myself had opportunity, under the late Dr. Seaton and under the late Mr. Ceely, to make such inoculations on a large scale. Over thirty milch cows and heifers had been inoculated with lymph of human variola; fluid condition and dried on points, taken from cases of confluent small-pox in different stages; clear lymph, purulent lymph, and crusts. Every animal was inoculated in from six to twelve places, each place being made up of a number of simple or crossed incisions about half an inch or more, and a large quantity of lymph was rubbed into each place of inoculation. Many of the animals were thus repeatedly inoculated. But in no instance was there produced a vesicle, or anything comparable to a cow-pock. We concluded from these experiments that to obtain a positive result an unknown additional condition is required, which was absent in our experiments. I am afraid that as long as the present uncertainty as to the exact nature of the virus of vaccinia and variola remains, no clear experimental proof will be obtainable, unless it be that a different method of experimentation with variola lymph is employed than has hitherto been followed. As regards the first—i.e., the nature of the virus—various assertions have been made from time to time, without, however, bringing us much nearer to the exact understanding. F. Cohn has, many years ago, ascertained the presence of micrococcus of the character of streptococcus in the lymph of variola and vaccinia; Sanderson confirmed this; Weigert found micrococci in the lymph of the vesicles and lymphatics of the variola eruption; Pohl Pineas described them also in the tissue of the epidermis of vaccinia. Dr. Paul Guttmann isolated, by cultivation after the modern methods, three different varieties of micrococci from the lymph of vaccinia and variola; so did also Dr. Buist. I show you here a streptococcus which is constantly present in human vaccinia, which corresponds to one of the streptococci isolated by Guttmann, and which he regards as the vaccinia streptococcus. Quite recently it has been, however, maintained that none of the species of micrococci hitherto isolated by the gelatine method can be the virus of vaccinia, but that it probably is some other organism not capable of growing in gelatine. The fact of the matter is, no one has yet succeeded in making a successful inoculation experiment with any of the organisms isolated from either variola or vaccinia. In saying this I am quite aware of the assertions of Dr. Buist, who claims to have succeeded in this; but reading his statements, and comparing them with his experiments, I think you will agree with me that they do not carry a great amount of conviction.

[The subjects of *hydrophobia* and *diphtheria* were then discussed by Dr. Klein, who then proceeded to the consideration of *scarlet fever*. He said that it would, no doubt, be in the recollection of the Society that at the end of 1885 and the beginning of 1886 an extensive outbreak of scarlet fever occurred in Marylebone, which Mr. Wynter Blyth has traced to be due to consumption of milk coming from a particular farm at Hendon. Mr. Power supplemented this by finding that cases of scarlet fever occurring also in other districts of the metropolis were likewise to be referred to the milk of the same farm. With Dr. Cameron, medical officer of health of the Hendon district, Mr. Power was able to exclude all and every accidental contamination of the milk of this farm from human source. Mr. Power had further shown "that only certain sections of the milk supplies within the farm, and eventually certain cows, as having to do with the infectivity of the milk."] The report of Mr. Power is known to you, and I think you will agree with me that in reading it, and following from step to step the clear and precise observations of Mr. Power, we cannot refuse admitting the correctness of his conclusions. It is not

[1] Read at the Epidemiological Society of London, on Dec. 14th.

my object or my place to defend Mr. Power's conclusions—he is quite capable of doing so himself; but I will undertake to say this, that to an unbiased reader the methods by which he arrived at those conclusions are unimpeachable, and the proof amounts almost to a mathematical demonstration..... A point that our opponents have brought forward refers to a disease in the cow which, it is alleged, is the same, and has the same origin, as the Hendon disease, but has not produced infection of human beings with scarlatina. Now let me first remind you what the conditions of the Hendon disease were. I will quote the concise summary given by the medical officer of the Local Government Board, in his Report of 1885-86, pp. vi. and vii.: "In the end," says the medical officer, "he (Mr. Power) has demonstrated beyond reasonable doubt the dependence of the milk-scarlatina of December on a diseased condition of certain milch cows at the farm; a condition first introduced there in the previous month by some animals newly arrived from Derbyshire; and he finds strong circumstantial evidence for believing that the later phenomena of this dependence were brought about through the extension of the diseased condition of one set of animals to another set, after the fashion of an infection." This disease in the Hendon cows manifested itself in the following symptoms:[2] ulcerations covered with scabs on the teats and udder, ulceration, scabs, scurfiness, and loss of hair in patches in different parts of the skin; the animals were thin, and exhibited slight cough, but showed no rise of temperature. The viscera of two animals killed showed: slight pleuritis, with recent fibrinous deposits and adhesions; congestion and extravasations of blood in many lobules of the lungs; discoloured softened patches in the liver tissue; ecchymoses and petechiæ in the tissue and in the capsule of the spleen; swelling of, and extravasations of blood in, the lymphatic glands; congestion and glomerulo-nephritis of the cortex of the kidney; in some also interstitial new growth. With the material of the ulcers the disease was reproduced in the skin of calves; from the tissue of the ulcers of the Hendon cow an organism was isolated by cultivation, of which the characters in the depth and on the surface of gelatine, on agar-agar mixture, in broth, milk, and on blood-serum, were minutely studied, and hereby its identification became possible. This streptococcus, when inoculated into calves, produced a visceral and sometimes cutaneous disease, mild in character, and which very much resembled that of the Hendon cows. With this organism, by feeding or inoculation, a disease ending fatally in a large percentage was produced in grey house-mice: from the heart's blood of these the same micrococcus was recovered by cultivation. Professor Axe has presented a report to the Agricultural Department of the Privy Council Office, in which he states that in two different localities cows had been affected with ulceration of the teats and udders, and that the disease had been introduced at the same time into these localities by infected cows coming from the same dealer in Derbyshire, that had supplied those incriminated first cows to the Hendon farm, but in those two localities no scarlet fever had been produced amongst the consumers of the milk. Now let me here say that this dealer in cows in Derbyshire had at first stoutly refused any and every information to Mr. Power; but some months afterwards, when this investigation at the Hendon farm had to a great extent implicated the stock of this Derbyshire dealer, he had altered his mind, and offered all the above information. It would seem, in such a case, that some corroboration of the statements and observations of the Derbyshire cow-dealer should have been forthcoming. I do not question for a moment that Professor Axe had correctly reported what he heard and saw as to the ulceration on the teats and udders in the two herds, and that he had been told and had observed that the disease spread in each herd, and that it was introduced there by cows coming from the dealer in Derbyshire above mentioned. But what I should like to be permitted to question is the reliance that ought to be placed on the information offered by the above Derbyshire dealer—i.e., whether about the same time and from the same stock that he supplied cows to the Hendon farm he also supplied those two other localities. That the disease observed in these two localities is the same as that at the Hendon farm there is no evidence whatever; sores and ulcers on the teats and udders of cows of an infectious character are known in veterinary pathology, and they are known to be of various kinds. In connexion with this I will mention one striking coincidence that refers to this Derbyshire dealer. It will be, no doubt, in your recollection that an extensive outbreak of scarlet fever occurred at and about Wimbledon at the end of the last and the beginning of this year. This epidemic was traced distinctly to milk coming from a particular farm. Now the curious thing about this farm is that it belongs to a dairy farmer of the name of Keevil, who happens to be the brother of our Derbyshire dealer, and who had received some of his cows from this same dealer shortly before the outbreak of scarlet fever in Wimbledon. The way that this Wimbledon milk had received the contagium has not been ascertained by Mr. Power, but the fact that the Wimbledon dairy farmer Keevil had got cows from the Derbyshire dealer Keevil, who had supplied the Hendon farm, is, I think, extremely suggestive. Owing to the kindness of Professor Brown, I have been enabled quite recently to observe a cow which belonged to a herd in which a contagious ulcerative disease of the teats and udders prevailed, which was supposed to be the same as that of the Hendon cows. No cases of scarlet fever have been known in connexion with these cows. The ulcers on the teats were very extensive, superficial, irregular, and covered with brown crusts, the teats themselves much swollen. Taking off the crusts and scraping the superficial part of the ulcers, and then taking material from the deeper part of the ulcer and inoculating gelatine, I succeeded in isolating four different species of micrococci—(*a*) micrococcus citreus; (*b*) micrococcus aurantiacus; (*c*) staphylococcus pyogenes; (*d*) a micrococcus, which in plate cultivation, on the surface and in the depth of gelatine, presented characters resembling the micrococcus scarlatinæ, obtained from the Hendon cows and from human scarlet fever. But it soon became apparent that it is an altogether different species; it grew much more slowly, and its colonies (minute circular dots) are much more transparent than those of the Hendon cow organism; further, while the micrococcus of the Hendon cow and of human scarlet fever grows well in broth, producing after two days at 35° C. a distinct turbidity, and also well on the surface of agar-agar mixture, as isolated whitish dots; the micrococcus in question isolated from the ulcer of Professor Brown's cow does not show any growth on agar-agar mixture, or in broth, even after a five days' sojourn in the incubator at 35° C. The animal in question was killed after about a fortnight, when the ulceration and swelling of the teats were still considerable. The left hind-quarter of the udder was found very tense, and greatly swollen; on incision, a large quantity of thick, grumous pus was found in this portion. The lungs were normal, the spleen was normal, the liver exhibited a few whitish irregular spots, and the kidney presented a few fatty patches on the surface of the cortex; none of the lymphatic glands showed the hæmorrhage into their substance. During life the animal had, all the time while under observation, high temperature, varying between 105° and 104° F.; and no wonder, seeing the extensive suppuration that was going on in the udder. There can, then, be no question that this cow did not show the same disease that was observed in the Hendon cows, nor was the same organism obtained. Two other cows were kindly given me by Professor Brown, and also in these the same condition was present and the same result was obtained by culture and in the post-mortem examination.

The last point of opposition urged is that of the so-called bacillus scarlatinæ of Edinburgh. Dr. Edington has isolated from the epidermis during the stage of desquamation of scarlet fever cases a bacillus which he considered to be the bacillus of scarlatina. He maintained that this bacillus is present in all cases of scarlet fever in the blood before the third day; it then disappears from the blood in order to appear in the skin, whence it is discharged into the epidermis, and here forms spores during the stage of desquamation. In the first place, let me remind you that various species of bacilli and micrococci have been hitherto isolated from the epidermis of the normal skin. In the second place this bacillus of Edington has not been found in all early cases of scarlet fever by a committee of the Medico-Chirurgical Society of Edinburgh, appointed to test Dr. Edington's assertion, only in the blood taken from a prick in the finger of two out of ten cases of scarlet fever on or before the third day. Anyone acquainted with the modern methods of bacteriological inquiries will agree with me when I say that there is no difficulty whatever for anyone who devotes the necessary time to it to isolate by the modern exact

[2] The description given by Dr. Cameron of the Hendon disease is admittedly and to a large extent based on various statements by different persons who in previous years and at different localities maintain to have observed a disease in cows similar to the Hendon disease.

methods new species of bacilli or bacteria in any material he chooses to select ..... The point, therefore, in the present state of bacteriological researches is not whether in any morbid material of the body this or that new species is present, but whether in its distribution and its action it bears any definite relation to that morbid process. Now everyone acquainted with these fundamental conditions will understand that one of the first and essential conditions would be that a microbe which is to bear any relation to scarlet fever must be found in the blood or tissues in a definite distribution. Examining the desquamating epidermis and finding a new species of bacteria may mean nothing more than this—viz., that to those several species already known to exist in the epidermis, another species has been added, which, in itself, is no doubt an interesting discovery, as much as, for instance, is a new species of diatome or a new beetle in a locality where no one has seen it before. But this new addition to the list of bacilli in the epidermis may have nothing whatever to do with the scarlet fever. This so-called bacillus of scarlatina is a bacillus which belongs to a well-defined group of species which in former years would have been considered as bacillus subtilis—viz., rods of a certain length and thickness, mobile; they have a tendency to form long chains or leptothrix; they grow rapidly in broth, and form here on the surface a scum, which is already well developed after twenty-four hours; the scum thickens during the next days, and becomes corrugated, the fluid itself remaining clear, but gradually becoming brownish—the more brown the longer time elapses; they liquefy rapidly gelatine, and after some days form also here a scum on the surface; they form in a few days a corrugated scum on the surface of solid agar-agar mixture; they grow rapidly in milk which is curdled, and by which a white precipitate is formed, while the fluid, at first turbid, gradually becomes clear; on its surface there is a thick pellicle. In plate cultivations in gelatine, the bacilli form minute whitish colonies, at first—i.e., during the first day angular, after thirty hours or more gradually liquefying the gelatine, and forming circular colonies of liquefied gelatine with an opaque or slightly granular outline, and a central, whitish spot due to precipitate of masses of bacilli. On potato they grow rapidly, and form a more or less corrugated layer, gradually turning brownish. Now I know of five different species; all notoriously septic bacilli, which show these characters besides the Edinburgh bacillus; they show, nevertheless, slight differences, and may be considered as different species, but as to those general characters just mentioned, there is no doubt they belong to the same group of organisms. To sum up, then, the Edinburgh bacillus, judging by its mode of growth, clearly belongs to a group of species of bacilli which are notoriously septic bacilla. It has been found in a small percentage of cases of scarlet fever in blood taken from a prick of the finger; its spores occur in the epidermis of cases of scarlet fever, amongst other species of bacteria; it has no action when the bacilli or spores are injected subcutaneously, and in a pure state, into animals. You will, I think, agree with me that after such evidence, it would be quite unjustifiable and premature to call this bacillus the bacillus of scarlet fever. This whole question of the etiology of scarlet fever is no doubt an extremely difficult one, and only by combined work on an extensive scale, and by careful and accurate methods, can we hope to get at the truth of the matter; and in these efforts no criticism should be shunned or objected to, but, on the other hand, it must be criticism made in an unprejudiced and scientific spirit.

COMPLIMENTARY BANQUET TO SIR ALFRED GARROD, M.D., F.R.S.

ON Tuesday, Dec. 6th, Sir Alfred Garrod was entertained at a complimentary banquet by the members of the medical profession resident in his native town, Ipswich. The chair was occupied by Dr. Caleb Rose, and the vice-chair by Mr. George Cordy Edwards, almost every practitioner of the town being present. The health of the distinguished guest was given by one of the senior surgeons of the hospital (Dr. Elliston), who referred to the high honour conferred upon Sir Alfred by Her Majesty, in selecting him as one of the few distinguished physicians who had received the prestige of knighthood in her Jubilee year, a distinction which reflected credit upon himself, and redounded to the honour of the town in which he was born and educated, and received his early medical education. The Ipswich school was proud to claim Sir Alfred Garrod as an old boy. After leaving school, he was apprenticed to the late Mr. Charles Hammond, one of the then surgeons of the East Suffolk Hospital. Thence he proceeded to University College, London, graduated at the University of London in 1843, and became successively attached to University College and King's College Hospitals as physician. He was now consulting physician to King's College Hospital, a Fellow of the Royal Society, and had for many years been known as a most successful teacher of materia medica and therapeutics, besides being one of the most actively employed of the physicians of the day. Dr. Elliston referred to the well-known works of their visitor, and particularly to his treatise on Gout and Rheumatic Gout, which, he thought, entitled him to grateful and lasting recognition. Sir Alfred had done for the elucidation of these allied diseases what Jenner had done for continued fever. The toast was most warmly received, and Sir Alfred Garrod, in response, spoke of his pleasing recollections of his early life at Ipswich, and of the pleasure he felt in responding to the invitation to visit them after so many years' absence. He recalled to memory the names of many able physicians and surgeons who were then living and practising, but are all dead, although he was pleased to see several of their descendants present.

BRITISH NURSES' ASSOCIATION.

A REPRESENTATIVE gathering of the matrons of the metropolitan hospitals and infirmaries, and other well-known members of the nursing profession, was held at Mrs. Bedford Fenwick's residence on Saturday last, to discuss the advisability of forming an Association for the mutual help of all women engaged in nursing the sick, and for the advancement generally of their professional usefulness both to medical men and the public. At this meeting it was pointed out that a heterogeneous Association was attempting to legislate for the nursing profession, and had issued regulations for the registration of nurses, which, it was considered, were degrading to them as a body. Furthermore, that there are now about 15,000 nurses in the United Kingdom, isolated individuals, who, with their scanty salaries, can do little to help themselves or each other if incapacitated by illness or age from further work. After some discussion, it was unanimously agreed that a British Nurses' Association should be formed, having for its objects (1) the obtaining of a charter that will enable the Association to examine and register nurses and to confer degrees; (2) the starting and carrying on of a journal of the Association, which shall be exclusively devoted to the interests of nurses; (3) the devising of schemes for annuity pension, and sick funds for nurses; (4) the formation and managing of a convalescent home and holiday house for nurses; (5) the founding and managing of almshouses for superannuated nurses; and (6) the organisation of conferences on questions relating to the nursing profession. Bye-laws were passed, a general council constituted, and an executive committee appointed, on which the following matrons at once consented to act: Mrs. Deeble (Netley Hospital), Miss Hogg (Haslar Hospital), Miss Stewart (St. Bartholomew's Hospital), Miss Jones (Guy's Hospital), Miss Thorold (Middlesex Hospital), Miss Wood (Children's Hospital), Miss Sutcliffe (Women's Hospital), Miss Clarke (Western Fever Hospital), Miss East (National Hospital), Miss Mollett (Chelsea Infirmary), Miss Close (Kensington Infirmary), Miss Beachcroft (Lincoln County Hospital), Miss Rogers (Leicester Infirmary), Miss Gibson (Brownlow Hill Infirmary, Liverpool), and Miss Huxley (Sir Patrick Dun's Hospital, Dublin). Mrs. Bedford Fenwick, lately matron of Bartholomew's Hospital, and five other ladies were also nominated to act with the above. The movement has, we are informed, been warmly welcomed, and is assured already of influential support.

A MEETING of the supporters of the Surgical Aid Society was held on the 7th inst., the Lord Mayor presiding, when satisfactory reports of the progress of the Society were presented.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5542 births and 3746 deaths were registered during the week ending December 10th. The annual rate of mortality in these towns, which had been 23·5 and 22·5 per 1000 in the preceding two weeks, further declined last week to 21·1. During the first ten weeks of the current quarter the death-rate in these towns averaged 20·6 per 1000, and was 0·9 below the mean rate in the corresponding periods of the ten years 1877-86. The lowest rates in these towns last week were 15·6 in Plymouth, 15·9 in Brighton, 16·8 in Huddersfield, and 17·5 in Hull. The rates in the other towns ranged upwards to 29·9 in Blackburn, 30·3 in Portsmouth, 31·5 in Oldham, and 33·2 in Newcastle-upon-Tyne. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 480 and 443 in the preceding two weeks, were last week 448; they included 116 from whooping-cough, 91 from scarlet fever, 77 from "fever" (principally enteric), 73 from measles, 44 from diphtheria, and 20 from small-pox. These zymotic diseases caused the lowest death-rates last week in Cardiff, Halifax, and Plymouth, and the highest rates in Portsmouth, Birmingham, Sheffield, and Derby. The greatest mortality from whooping-cough occurred in Wolverhampton, Portsmouth, and Newcastle-upon-Tyne; from scarlet fever in Blackburn, Huddersfield, and Oldham; from "fever" in Preston, Newcastle-upon-Tyne, Blackburn, and Bolton; and from measles in Nottingham, Birmingham, and Derby. The 47 deaths from diphtheria in the twenty-eight towns included 27 in London, 3 in Brighton, 3 in Manchester, 2 in Portsmouth, and 2 in Sheffield. Small-pox caused 17 deaths in Sheffield, 2 in Bristol, and 1 in Hull, but not one in London or in any of the twenty-four other large provincial towns. The metropolitan hospitals receiving cases of small-pox contained 10 patients on Saturday last, against 16, 13, and 12 on the preceding three Saturdays. The number of scarlet fever cases in the Metropolitan Asylums Board hospitals and in the London Fever Hospital at the end of the week was 2667, against 2764 and 2726 on the previous two Saturdays; the cases admitted also showed a decline from the numbers in recent weeks. The deaths referred to diseases of the respiratory organs in London, which had been 560 and 455 in the preceding two weeks, further declined last week to 408, and were 79 below the corrected average. The causes of 73, or 1·9 per cent., of the 3746 deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Leicester, and in five other smaller towns. The largest proportions of uncertified deaths were recorded in Halifax, Sheffield, and Huddersfield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had steadily increased in the four preceding weeks from 19·9 to 25·0 per 1000, declined again to 22·7 in the week ending Dec. 10th; this rate exceeded, however, by 1·6 the mean rate during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 16·5 and 19·4 in Leith and Perth, to 23·9 in Glasgow, 24·4 in Aberdeen, and 32·5 in Paisley. The 567 deaths in the eight towns last week showed a decline of 59 from the number in the previous week, and included 29 which were referred to whooping-cough, 14 to scarlet fever, 14 to measles, 13 to diarrhœa, 5 to "fever" (typhus, enteric, or simple), 4 to diphtheria, and not one to small-pox; in all, 79 deaths resulted from these principal zymotic diseases, against 78 and 77 in the preceding two weeks. These 79 deaths were equal to an annual rate of 3·2 per 1000, which exceeded by 0·7 the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had been 30 and 28 in the preceding two weeks, were last week 29, of which 17 occurred in Glasgow and 6 in Edinburgh. The 14 deaths from scarlet fever showed a further slight increase upon the numbers in recent weeks, and included 6 in Glasgow, 5 in Dundee, and 2 in Perth. The fatal cases of measles, which had been 8, 13, and 12 in the previous three weeks, rose last week to 14, of which 6 occurred in Leith, 5 in Dundee, and 3 in Edinburgh. The 13 deaths attributed to diarrhœa showed an increase upon the low numbers in recent weeks; 7 were returned in Glasgow and 3 in Edinburgh. The 5 deaths referred to "fever" were fewer than in any recent week, and included 2 in Glasgow and 2 in Edinburgh. Three of the 4 fatal cases of diphtheria occurred in Glasgow. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had increased in the preceding four weeks from 107 to 165, declined again last week to 143, and were 1 below the number returned in the corresponding week of last year. The causes of 60, or nearly 11 per cent., of the deaths registered in the eight towns during the week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 34·6, 33·8, and 35·0 per 1000 in the preceding three weeks, further rose to 35·6 in the week ending December 10th. During the first ten weeks of the current quarter the death-rate in the city averaged 31·0 per 1000, the mean rate during the same period being but 19·8 in London and 19·7 in Edinburgh. The 241 deaths in Dublin last week showed a further increase of 4 upon the numbers in recent weeks; they included 15 which resulted from scarlet fever, 6 from measles, 4 from "fever" (typhus, enteric, or simple), 3 from whooping-cough, 3 from diarrhœa, and not one either from small-pox or from diphtheria. Thus the deaths resulting from the principal zymotic diseases, which had been 33 and 31 in the previous two weeks, were again 31 last week; they were equal to an annual rate of 4·6 per 1000. the rate from the same diseases being 2·6 in London and 3·2 in Edinburgh. The fatal cases of scarlet fever, which had been 20, 8, 11, and 13 in the preceding four weeks, were 15 last week. The 6 deaths from measles showed a decline of 2 from the number in each of the previous two weeks. The deaths from the other zymotic diseases scarcely differed from those in the previous week. The deaths of infants showed a slight increase, while those of elderly persons were fewer than in either of the previous two weeks. Five inquest cases and 3 deaths from violence were registered within the city; and 57, or nearly a quarter, of the deaths occurred in public institutions. The causes of 37, or more than 15 per cent., of the deaths in the week were not certified.

Correspondence.

"Audi alteram partem."

ALBUMINURIA IN THE APPARENTLY HEALTHY.

To the Editors of THE LANCET.

SIRS,—I have read with considerable interest Dr. Stirling's able paper on the above subject in your issue of the 10th inst.; but should, however, like to make a comment on one point, concerning myself, with regard to it.

Dr. Stirling remarks that he cannot agree with me "that the one cause of this albuminuria is an increased hæmolytic action of the liver." From this I fear that in my paper on the subject, published in THE LANCET of Oct. 23rd, 1886, I did not make it sufficiently plain that I intended this to apply only to that form of functional albuminuria which strongly resembles hæmoglobinuria in its paroxysmal character, and with which, indeed, I believe it is allied. This paroxysmal albuminuria has not always a marked cyclical character, since it may occur indifferently at any period of the day, and sometimes is continuous for days together, though the effect of a meal is generally to be observed by an increase of the amount of albumen in the urine. Its most marked feature is the feeling of malaise, frequently accompanied by sallowness, coming on suddenly in a person apparently previously healthy. The sample of urine next passed contains albumen, and is also characterised by containing more urea and urobilin, and in being of a higher specific gravity than the generality of samples passed by the same individual. The attack may pass off at once and the succeeding samples be free from albumen, but usually there is persistence for some days. In addition to the three cases published in THE LANCET, I have now under observation a member of our profession in whom the malaise, when it occurs, is well marked, and whose urine invariably shows the above-men-

tioned characteristics; for in a long series of observations I have noted that the albuminous urines are always of a higher specific gravity and contain more urobilin than any that he sends me when his urine is free from albumen. In his case the beneficial effect of arsenic is well marked, since the albuminuria disappears more rapidly when he takes a mixture of iron and arsenic than with iron alone.

It is, however, to this *paroxysmal* form of functional albuminuria alone that I would refer increased hæmolytic action of the liver as "the one cause." Indeed, in my work on "Diseases of the Kidneys," pp. 535—540, I have enumerated several other conditions which may cause functional albuminuria in persons apparently healthy, and which I have classified under the following heads, as due to (1) derangements of digestion; (2) disturbed innervation; (3) altered conditions of the blood.

With regard to Dr. Stirling's interesting observation respecting the albuminuria of adolescents, and the difficulty of deciding whether or not masturbation has anything to do with it, I may mention that in a case brought to me last summer, subsequent microscopic examinations of the urine has demonstrated the presence of spermatozoa in the albuminous morning urines.

Another interesting point in connexion with functional albuminuria that requires working out is the connexion subsisting between functional albuminuria and micro-organisms. In two cases at least has my attention been drawn to freshly passed albuminous urines containing micro-organisms, which were not to be found in non-albuminous samples passed by the same individual.

I am, Sirs, yours faithfully,

CHARLES HENRY RALFE.

Queen Anne-street, W., Dec. 12th, 1887.

THE TREATMENT OF CANCER.

To the Editors of THE LANCET.

SIRS,—The value or the worthlessness of Chian turpentine in the treatment of cancer is a subject of such vast importance that it is obvious that any testimony brought forward with regard to it should be of undoubted and unbiased accuracy. It is for this reason that, after much hesitation, I feel reluctantly compelled to correct the report of one of the cases published by Professor Clay in THE LANCET of the 19th ult. Of this case (the last of the series) Mr. Clay remarks, "these notes should be highly appreciated, as the case is unique in regard to independent testimony, combined with a thorough and incontestable diagnosis." The report itself states that "this was a case of undoubted epithelioma, as shown microscopically"; and in your editorial article of the 3rd inst. stress is laid on this, as being "a case confirmed by microscopic examination of a growth removed." The case in question was, with the exception of a short interval, under my care from the beginning to the end of the illness, and I now venture to place before your readers a brief but correct account of its nature, and will leave them to form their own judgment as to how far the above conclusions are warranted by the facts.

The patient, a lady at the menopause period of life, was subject to attacks of menorrhagia. During one of these, having imprudently exposed herself to cold, a severe attack of pelvic peritonitis was the result. After the more acute effects had passed away, there remained considerable thickening in and around the walls of the uterus, which was markedly retroflexed; the thickening was especially marked in the cervix, where there was found at one part on the margin of the os a spot of suspicious hardness. The patient was sent to Brighton to convalesce, and on her return much of the general thickening was found to have disappeared, but the indurated spot on the cervix still remained, and in addition a new feature was for the first time observed. Appearing in but not extending beyond the os was a small papillary growth, having its base within the cervix at a point corresponding to the induration. I may state, however, that this was the first occasion on which a speculum was used, so that the growth may have been in existence for a considerable time previously. I expressed my fears as to the cancerous nature of the case to the patient's son, and she was taken by him to see Mr. Thornton. The report made to me was that Mr. Thornton considered the growth to be of the nature of an enlarged granulation; that he had removed it, and cauterised the base. The case now for a time passed out of my hands. Some time later, on making inquiries, I was informed by the lady's son that the growth had been examined microscopically, and that *no cancerous elements had been discovered*. After a considerable interval I was again requested to see the patient, as it was feared the growth had returned. This I found to be the case, and the patient was once more taken to see Mr. Thornton. The report brought to me (in both instances verbally) was to the effect that Mr. Thornton had pronounced the case to be one of cancer, and did not advise any operative interference. I now suggested that, as Chian turpentine was at this time making some stir, there could be no harm in giving it a trial. The patient was accordingly put under this treatment, which was continued for a year with short intervals of rest. During this time the induration disappeared, and the general health became completely re-established, but the growth (which had *not* been removed by Mr. Thornton on the second occasion) remained, and, for aught I know to the contrary, still remains *in statu quo*. Certainly when I last examined the patient, about eighteen months after commencing the turpentine treatment, there was no change observed in it. Whatever the true nature of this growth may be, I feel bound to confess that the result of the treatment was such as to impress me very strongly in favour of Chian turpentine, and I am now watching with great interest its effects on a case in which there can exist no reasonable doubt of the presence of cancer. The result, whether favourable or not, I shall, with your permission, report in due course in the columns of THE LANCET.

I am, Sirs, yours truly,

Leytonstone, Dec. 10th, 1887. J. KING KERR, M.D.

To the Editors of THE LANCET.

SIRS,—The point at issue between Professor Clay and myself is not whether he declared Chian turpentine to be a "specific" or a "cure" for cancer; but that, with very few exceptions, the profession at large have failed to get the results his treatment gave promise of, and I ask of him, in common with others of greater weight, an opportunity of having his diagnoses and results verified. Physician to a large hospital, one would naturally imagine that during the seven years this remedy has been prominently before the profession many opportunities would have occurred to Mr. Clay of proving to his colleagues the wonders he had wrought; and yet in your last issue Mr. Oliver Pemberton states that an appeal addressed to him on the matter failed to get a satisfactory response; whilst in his letter of the 10th inst., he writes in one part that he is "prompted by a manifest desire only to arrive at the truth"; further on he declines to take part in an inquiry on the ground that "it is obvious that the claims of a large private practice, and detachment from hospital work, prevent me from conducting investigations such as those by M. Pasteur with regard to hydrophobia."

These objections might be easily overcome. There are doubtless members of the staff of one or other of the hospitals in Birmingham who would for such an important investigation as the one suggested place a sufficient number of beds at his disposal, where all the conditions he asks for could be obtained without seriously trenching upon his private work.

So far as I am concerned there is no personal feeling in this discussion; but it is the outcome of failure after failure from the exhibition of Chian turpentine in uterine and other examples of cancer, upon the lines laid down by Professor Clay in his papers.

The time is ripe for this investigation, and should Professor Clay refuse the just demand of the profession, then only one verdict on the matter can be given.

I am, Sirs, yours truly,

Nottingham. GEORGE ELDER.

To the Editors of THE LANCET.

SIRS,—In reply to Mr. Pemberton, I still adhere to my statement that "instances in which the disease [cancer] has been cured are familiar to most practitioners," and am surprised that during forty years, in an almost unlimited field for observation, it has never been his lot to see one.

Allow me to refer your readers to the notes of a case of cancer of the breast,[1] reported by Dr. F. A. A. Smith, where

[1] THE LANCET, 1887, vol. ii., p. 565.

a primary operation was performed in 1868, the diagnosis being verified by microscopic examination of the tumour after its removal, and where secondary growths have occurred in the cicatrix in 1887—i.e., after an immunity of nineteen years. I wish Mr. Pemberton would define the sense in which he employs the term "cure," and state whether he considers in the case now cited that Dr. Smith "cured" his patient of "cancer" in 1868. Will Mr. Pemberton also inform me in what sense "cancer infiltrating the textures immediately around its origin" differs from cancer as defined by myself in your issue of the 3rd inst.;[2] and how he recognises clinically the commencement of the process of "contamination of the adjacent glands"?

From the evidence before us I cannot at present regard certain cases treated after Mr. Clay's method other than instances in which cancer has been cured, and his success has led me to try Chian turpentine numerous times at the Cancer Hospital. Though unable to point to a single instance in which cancer has been yet cured in my own practice by the internal administration of Chian turpentine, either alone or in combination with local applications—and the value of the latter must not be underrated,—my experience has caused me to regard the remedy as valuable. It checks discharge and hæmorrhage, and allays pain. It would also be most unfair were I to neglect to state that the cases in which I have administered Chian turpentine—and beneficially—were all unsuited for operation on account of the extent of the disease. Had the drug therefore been exhibited at an earlier date, the natural course of the disease might have been arrested. I have employed the drug in a case of perineal fistula, where it acted similarly to copaiba and cubebs.

This observation suggests the possibility that if Chian turpentine will operate favourably upon cancer, its allies may be found possessed of similar or more potent properties. Let me add that, for my part, I am determined to continue an unprejudiced trial of Chian turpentine, and to publish the results at a later period. In the meantime, I should be happy to assist others, having the same object in view, in making careful diagnoses of cases in which cancer presumably exists before the exhibition of the remedy.

I am, Sirs, yours faithfully,

CHAS. E. JENNINGS.

Upper Brook-street, Grosvenor-square, W., Dec. 10th, 1887.

ANTIPYRIN IN THE SICKNESS OF PREGNANCY.

To the Editors of THE LANCET.

SIRS,—I have recently had an opportunity of testing the value of antipyrin as a moderator of the reflex excitability of the nervous centres in a case of obstinate vomiting of pregnancy. Mrs. ——, a lady now in the sixth month of her fourth pregnancy, has been suffering from this annoyance for the last ten weeks. All the usual remedies have been tried without any success, and the sickness when I advised antipyrin commenced every day as soon as the patient awoke, about 7 A.M., and continued at intervals until midday. The first morning the medicine was used it was immediately vomited, and the sickness continued as usual. I then advised that a dose (of fifteen grains) should be taken the last thing at night. The following morning the patient felt comfortable, and got up without being sick; but shortly afterwards the nausea was experienced, and although another dose of antipyrin was taken it did not remain upon the stomach, and for the rest of the morning there was the usual sickness. The dose was then doubled, and I recommended that in the morning the medicine should be taken before any attempt was made to move out of bed. This controlled the sickness until 10 A.M., when it again recurred, and lasted a couple of hours. Not thinking it advisable to push the administration of antipyrin, under the special circumstances of the case, beyond two doses of thirty grains each, I advised the patient to remain content with this half-result.—I am, Sirs, yours sincerely,

Paris, Dec. 12th, 1887. OSCAR JENNINGS.

ETIOLOGY OF PNEUMONIA.

To the Editors of THE LANCET.

SIRS,—In reference to an article on pneumonia dealing with the views of Dr. Baker (of the United States) on its causation, it may be mentioned that an investigation into the statistics of chest diseases in the British army would probably fully confirm his statements. The doctrine of chill from external cold had been generally accepted for practice, and on its authority the introduction of the wearing of flannel shirts by the soldiery was strongly recommended and carried into use. The result in the diminution of cases and mortality from chest complaints caused by exposure to weather was surprising, and has continued equally successful. There may be discovered other agencies, chemical and vital, acting along with and influencing pneumonia, and developed by the vital disturbance that then takes place in the lungs; but experience leads to the belief in the atmospheric agency of cold applied directly to the outside of the chest, and that it (presupposed to be an entity) then penetrates by conduction through the walls of the chamber to the pleuræ, and then into the lobules of the lungs lying next to them. All the vessels are at first contracted to their finest calibres, both on the skin and in the lungs, and so remain for hours probably, causing the feeling of chill. Next, on the patient's removal to house or hospital, with a warmer air, reaction sets in, the circulation rushes into the emptied vessels, already weakened, distends them, and produces the stagnation and effusion called inflammation.

I am, Sirs, yours truly,

J. W. BLACK, Surgeon-Major.

Royal United Service Institution, Whitehall, London.

[2] THE LANCET, p. 1112.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—Will you kindly insert the enclosed resolution, passed at our Council meeting on December 8th?

"Several cases having been brought before the Council in which alleged errors of diagnosis had been publicly reported, and consequently affecting the professional characters of district medical officers and others, the Council trust that more consideration will be shown by medical officers of health and medical superintendents of public institutions in the expression of any adverse opinions."

I am, Sirs, yours truly,

Dec. 14th, 1887. J. WICKHAM BARNES.

NORTHERN COUNTIES NOTES.

(*From our own Correspondent.*)

THE HEALTH OF NEWCASTLE.

THE high rate of mortality prevalent for some time in the city of Newcastle-on-Tyne has been a foremost subject of conversation here amongst all classes. The daily press also has freely ventilated the matter, and indeed the whole machinery of inquiry has been set a-going down to "interviewing," and all sorts and conditions of practitioners have been pressed to give "their views." In the few remarks here set forth I may say I have not been "interviewed," that my experience of Newcastle extends over twenty-seven years of practice, and that I have freely conversed with men in the profession and others who take an interest in sanitary matters. The principal factors in producing the late high figures in the death-rate are: the geographical position of Newcastle, standing as it does in the narrowest part of England; the late meteorological conditions, mostly characterised by change — not, indeed, intense cold, but cold, with damp, hoar frosts, succeeded by a rising thermometer and westerly or south-westerly wind, veering often to the north and north-east; and, again, fogs—frosts not usually so common here at this season. Add these conditions to a clay soil, on which this city is built, and we have some of the strongest causes for general ill-health in the community. Unlike other cities, the best or more fashionable quarters are not in the west, but in the north and east end. The west end of the city is built on a good slope, and in most parts on high ground, and has rather a better foundation as regards the character of the clay. In some of the north districts the clay extends down fully nine feet, so that in damp weather there must be a greater retention of moisture. The School Board regulations have been blamed for much of the illness. I do not agree with this, for it will always be to the interest of the School Board and its officers to keep up a good standard of health, as securing a good general attendance; but boards are not very sensitive bodies, and I may leave the

defence to its able secretary. I believe that what may be called the "bureaucratic" management of the city is not without its faults; disease is often concealed for fear of notification and inspection, with removal of patients and beds. I believe too little attention is paid to cleanliness by the people since these new sanitary arrangements came into vogue, and all or too much is left to the town or landlord to do. The middle and the working classes of Newcastle have a partiality for new streets and new houses, and they will remove in droves to damp, even wet, unfinished houses and streets for no other apparent reason than that they are new, and for this they will leave well-drained streets and well-dried houses. I must, in closing, refer to the habits of a large number of the working classes. Let anyone stand near any one of our numerous "long bars"—which are such a curse to this city—just before they close, and see the stream of heated, excited, and poorly clad men, women, and children rushing from the vitiated and hot atmosphere into the cold air on their way to their wretched homes, and he will wonder no longer that the death-rate is high in Newcastle. Children, too, are both badly fed and clothed, which cannot fail to produce a train of disease. In our markets on any Saturday night infants in arms and older children can be seen partaking with their parents of raw tripe, black puddings, and stale fruit, to be washed down on their way home at the "long bars."

Newcastle-on-Tyne, Dec. 12th.

EDINBURGH.

(From our own Correspondent.)

THE MEDICO-CHIRURGICAL SOCIETY.

AT the last meeting of the Society, held a week ago, two interesting cases of myxœdema were exhibited by Professor Grainger Stewart and Dr. John Thomson. Mr. Annandale demonstrated by means of an admirable cast of the face a new method of restoring the nasal bones to their proper position in cases of profoundly depressed fracture. A transfixing metal wire draws forward the bones with the nasal processes of the superior maxillæ, taking its leverage from a sheet of lead-foil which covers the nose, and at the same time moulds the soft parts and retains them in their natural formation till healing is completed. An extensive paper was presented by Dr. Symington on those physiological variations in the position of the liver which depend upon the alteration in the size of the stomach consequent upon its varying degrees of distension. This paper was richly illustrated by casts, models, and drawings of frozen sections, exhibiting the liver *in situ* in the various postures normally assumed by it, and disposing of certain erroneous impressions regarding its position in the body that have crept into some of the text-books. The paper was received very favourably by the Society, several of the clinical teachers present referring to the extreme importance of the anatomical data referred to as a basis for physical diagnosis. Dr. Skene Keith demonstrated the apparatus employed in the treatment of uterine fibroids according to the method of M. Apostoli, and read a paper dealing with the matter systematically, with copious clinical notes appended, narrating his own and Dr. Thomas Keith's success in following the method. In the discussion that followed, the palm certainly fell to Dr. John Duncan, who, after a passing reference to his own work in the application of electricity to surgical cases, considered carefully the wide question of the action of electric currents as applied to the living tissues. In his opinion a clear distinction must be drawn between the electrolytic and corrosive effects specially valuable in surgical cases, and the neurotic and alterative manifestations produced by the current as applied to uterine neoplasms. Success in applications of both sorts must depend on a recognition of the wide difference of the results desired in the two categories of cases; for whereas in the former, which must be called surgical electricity, certain clearly defined physico-chemical results are aimed at; in the latter, which is strictly a department of medical electricity, the result desired is of a subtle, and as yet undefined, nutritive nature; in the former the current must be strong, concentrated, and local in its field of activity; in the latter more disseminated as regards the whole growth attacked, and not of such strength as to produce electrolytic effects.

THE UNIVERSITY COURT.

The University Court have adopted a proposal aimed at extending the benefits of University teaching to a wider circle than those whose intention it is to enter one of the learned professions. By enacting that a matriculation fee of five shillings shall qualify would-be lay students to enter the precincts of the University, and to enrol themselves in certain of the classes, they have opened a channel of useful activity to many who have been hitherto entirely debarred from the higher paths of education; and at the same time, while still guarding important professional courses from an inundation of "the profane," there can be no doubt that they are enhancing the value and vitality of some of the less crowded courses of lectures by placing them within the reach of many who will gladly avail themselves of so prized an opportunity of self-improvement.

THE ROYAL SOCIETY.

The Royal Society is evincing a stronger desire to develop the medical side of its activities than has been the case for some time. At one stage in its career it was greatly famed for the excellent medical and botanical papers contributed by its Fellows; and it is an evidence of a wish for a return of the halcyon days of those particular branches which relate to medicine that has prompted the unanimous election to seats on the Council of two such energetic representatives of our profession as Drs. Batty Tuke and Sims Woodhead. Their appointment is well timed, since they may well add valuable matter to the Transactions and Proceedings by making them the organs for the publication of work from the new College of Physicians' laboratories over which they preside—the one as curator, the other as superintendent.

Edinburgh, Dec. 13th, 1887.

DUBLIN.

(From our own Correspondent.)

THE ACTION OF THE COLLEGE OF PHYSICIANS AGAINST THE APOTHECARIES' CONJOINT SCHEME.

TO-DAY (Tuesday), before the Vice-Chancellor, application was made to fix the mode of trial of an action by the President and Fellows of the College of Physicians in Ireland against the Governor and Company of the Apothecaries' Hall in Ireland. The College of Physicians wish to have it declared that the defendants are not entitled to hold a qualifying examination under the Medical Act, 1886, or to grant a diploma in respect of medicine within the meaning of the Act, or to hold a qualifying examination in connexion with the Royal College of Surgeons in Ireland. Further, that the Registrar of the Irish Branch Council shall not register any diploma granted jointly by the Apothecaries' Hall and the Royal College of Surgeons. Counsel having appeared for the various parties interested in the matter, the Vice-Chancellor fixed the hearing to take place before him on affidavit. This action for an injunction by the College of Physicians is almost universally condemned by the profession, but as the trial cannot much longer be delayed any detailed comment on the proceedings may be left to a future occasion.

SCIENTIFIC ASSOCIATION, R.C.S.I.

The opening meeting of the second session of this Association, which has been formed in the interests of the students attending the medical school of the College and other medical schools in Dublin, took place last week. The President for the ensuing year (Professor Stoker) delivered an interesting address, which was principally directed to the dangers and inutility in many cases connected with the use of O'Beirne's long injection tube.

ALLEGED TREATMENT FOR HYDROPHOBIA.

The McGauran treatment of this dread disease has of late attracted attention by the persevering way in which it has been brought forward by some credulous people in the north of Ireland as absolutely infallible. It is remarkable that not a single medical practitioner living in the district in which Mr. McGauran resides has the slightest faith in the alleged cure. Surely, if there is any truth whatsoever in the alleged cures, the particulars of at least one well-authenticated cure should be forthcoming. But no; up to the present there has not been one, and the offer of £50 by

Dr. Thompson, of Omagh, has failed to obtain such. On the other hand, there are very many undisputed cases of persons bitten by rabid animals having died after treatment by the McGauran method. Until a well-authenticated case of recovery by this method is recorded, a discreet silence on the part of its advocates would be advisable.

BRITISH DENTAL ASSOCIATION.

The first meeting of the Irish branch of the British Dental Association was held last week in the Royal College of Surgeons. The President (Mr. D. Corbett), in his address, said that the labour and duties they had undertaken as members of the British Dental Association were by no means light and insignificant; therefore they must individually, and conjointly with the parent Association, exercise all their influence to compel outside members of the profession to adopt that reform which a conscientious acknowledgment of what the public expected from the educated and honest practitioner of the day should beget. He saw around him young practitioners, and to them he would more particularly address his concluding observations. When urging them forward in the pursuit of knowledge, in the language of a well-known author, he would say "Seek greedily that knowledge which would comfort them, adorn them, and never quit them, which would open to them the kingdom of thought and all the boundless regions of conception, as an asylum against cruelty, the injustice, and the pain that might be their lot in the outer world; that which would make their motives habitually great and honourable, and light up in an instant a thousand noble disdains at the very thought of meanness and of fraud."

THE DERRY MAYORALTY.

At a meeting of the Derry Corporation held last week, Sir William Miller, M.B., surgeon to the County Derry Infirmary, was unanimously elected Mayor for 1888. Sir William Miller, it may be added, has declined to receive any emolument during his year of office.

CASE OF ALLEGED POISONING BY A MEDICAL MAN.

The Cork Grand Jury last week found a true Bill against Dr. Philip Cross, who is charged with having poisoned his wife last June. The trial is proceeding.

The annual ball in aid of the funds of the Dublin Orthopædic Hospital will, it is announced, take place in the New Leinster Hall on the 11th of January next.

Dublin, Dec. 13th.

BELFAST.

(From our own Correspondent.)

THE QUEEN VICTORIA CONVALESCENT HOME.

Of the many schemes that in Belfast were brought before the public to celebrate Her Majesty's Jubilee, none have succeeded so well as that put forward by the Ladies' Committee of the Hospital for Sick Children—to provide a Convalescent Home in connexion with the hospital. The sum aimed at was £3200, and already there is £2500 promised and subscribed. Last week a most successful amateur concert was given, and a sum of over £70 was raised by it for the Convalescent Home. It is very strange that, although this hospital contains forty-five beds, and has an immense extern department, and although students have attended the cliniques given by the physicians and surgeons every year since 1875, the Senate of the Royal University do not see the fairness and necessity of recognising this hospital as a teaching institution in connexion with the Royal University. The number of students who are attending the hospital this year is as large as that of last session.

THE BELFAST MEDICAL STUDENTS' ASSOCIATION.

At a largely attended meeting of the members of the Medical Students' Association, held on Dec. 6th, the following resolutions were passed unanimously:—"1. Whereas the principle adopted by the Royal University of altering their regulations and curriculum, and of making these alterations affect students already matriculated, has been a source of much confusion and injustice in the past, and still continues so, it is resolved that we, the Belfast Medical Students' Association, respectfully protest against this principle as subversive of confidence in the University, and manifestly a breach of confidence on the part of that body. 2. That the members of the Belfast Medical Students' Association respectfully desire to call the attention of the Senate of the Royal University to the fact that since the institution of the third examination there is not a single Belfast man on the list of examiners for the degree examination in medicine. In making this representation they do not wish in any way to reflect on the fairness of the examination, but only to claim the privilege of having one or more of their teachers on the Examining Board." After these resolutions had been passed, a discussion took place on the Best Text-books for Students, which was introduced by Dr. Byers, and on the Importance of Case-taking, which was opened by Dr. Calwell. This Association, under the presidency of Dr. J. A. Lindsay, is, during the present session, in a very healthy and vigorous condition, and is a pleasant bond of union between the students.

THE BELFAST DISTRICT LUNATIC ASYLUM.

The question of the proposed enlargement of this institution came up for discussion at a meeting of the governors on Dec. 12th. Mr. Nugent (inspector) gave his opinion in favour of going into the country for a new site, and building a new asylum altogether in preference to the project of adapting a workhouse, should such a building become available for the purpose. This new building would be a sort of annexe to the present asylum. Mr. Nugent thought it would be more satisfactory and more economical to erect a new building, as workhouses were unsuitable for such purposes, and to render them available the expense of the necessary alterations would be very considerable. Finally, after a long discussion, it was decided to postpone the whole question for three months, and in the meantime a deputation is to wait upon Mr. Balfour, the Chief Secretary for Ireland, for the purpose of inquiring what are the intentions of the Government in reference to the proposed measure for the amalgamation of Irish Poor Law Unions. When the report of this deputation is received the question will again come up for discussion, and probably for final settlement.

Belfast, Dec. 13th.

PARIS.

(From our Paris Correspondent.)

MICROBES AND EXPIRED AIR.

WITH reference to the note on confined air and the development of phthisis by Professor Brown-Séquard, which was published in my letter of last week, I may here give the summary of a communication read by Professor Bouchard at the following meeting of the Academy of Sciences on behalf of MM. T. Straus and W. Dubreuille, tending to prove the absence of microbes in expired air. Lister was the first who made the observation that the air introduced into the pleural cavity after a simple fracture of the ribs (without any exterior wound) produced effects very different from, and infinitely less grave than, those resulting from a pneumothorax consecutive to a penetrating wound of the chest. This fact, he added, was to him a mystery, until—thanks to the germ theory—he understood that it was natural that the air was filtered by the bronchi, one of the offices of which is to arrest the particles of dust inhaled, and to prevent them entering into the pulmonary vesicles. This explanation was confirmed experimentally by Tyndall, who showed that the expired air is "optically pure." The researches of MM. Straus and Dubreuille by the bacteriological methods completely confirmed the experiments of Tyndall. They tended to demonstrate that the air expired, even though optically pure, is almost completely deprived of microbes. The lungs therefore really play, for the micro-organisms, the *rôle* of a filter—a function which Lister attributed to them. Divers experimenters have endeavoured to find in the expired air pathogenic microbes, but always without result. Professor Grancher had performed a great number of experiments on the expired air of phthisical patients, but he had never been able to discover the presence of Koch's bacillus or spores. MM. Charrin and Karth had prosecuted analogous researches, but with negative results. From these facts the authors conclude that when human beings or animals are collected in a confined space, their respiration, far from contaminating the air, tends to purify it—that is,

as far as microbes are concerned. This is what might be expected, as the air, on leaving the lungs, contains less of microbes than at its entrance. This fact does not in any way militate against that which was long ago established by MM. Pasteur, Lemaire, Miquel, &c.,—that is, that the microbes are very abundant in the air of crowded rooms such as hospital wards, barracks, &c. The act of respiration has nothing to do with this phenomenon; it is not by the air which they expire—that is, by their breath—that people crowded together charge the surrounding air with microbes; it is by their clothes, by the dust caused by their movements, by their expectoration dried on the floor and blown about in the form of powder, by which the dissemination of the microbes in the air is effected. The respiration of human beings within a closed space contributes its contingent of noxious gases, but it tends to purify the air of the microbes which it contains.

TINEA DECALVANS ("PELADE").

A discussion took place at the Academy of Medicine last week on the contagiousness or non-contagiousness of tinea decalvans ("Pelade"), but without much satisfactory result on either side. Dr. Ollivier has for the third time brought the subject to the notice of the Academy. Considering that this malady is not contagious, the author protested vehemently against the exclusion in schools of the pupils who are affected by it. Dr. Ollivier believes that tinea decalvans is caused by a sudden nervous perturbation, an unexpected emotion, or by very great sorrow. He would therefore recommend that the quarantine to which such pupils are subjected should be removed, and that they should be allowed to prosecute their studies in common with the others. Dr. Hardy, the well-known dermatologist, declared that he entertained an opinion diametrically opposed to that of Dr. Ollivier; Professor Cornil shares Dr. Ollivier's opinion, and stated that what tends to prove the non-transmissibility of tinea decalvans is that one does not find in this affection either cryptogams or micro-organisms which could produce it.

Paris, Dec. 13th.

VIENNA.

(From our own Correspondent.)

THE CHEMICAL CHANGES OF THE BLOOD IN TUBERCULOSIS.

A YEAR ago Dr. Ernst Freund, a pupil of Professor Ernst Ludwig, published the results of his chemical researches on tuberculosis in the *Wiener Medicinische Jahrbücher*, 1886. He stated that he had been able to prepare from the blood, as well as from the tuberculous growths of the organs of twenty-five tuberculous cases examined, an organic body belonging to the group of carbohydrates, exhibiting all the reactions peculiar to cellulose—viz., it was insoluble in the ordinary indifferent solvents, but readily soluble in a solution of cupric hydroxide in ammonia; it was resistant to the action of Schulze's mixture of nitric acid and chlorate of potassium; when dissolved in concentrated sulphuric acid, it was converted into sugar by boiling with diluted sulphuric acid, and when treated with nitric acid, ether, and alcohol, a collodion-like body was obtained; it assumed a blue colour when treated with iodine in presence of concentrated sulphuric acid or of a concentrated solution of chloride of zinc, and a blue colour by adding α-naphthol to its solution in concentrated sulphuric acid. For the sake of control the blood and the normal or pathological organs of thirty other cases were examined, but no trace of cellulose could be found in them. Freund's statements on the occurrence of cellulose in tuberculosis have been confirmed, as I am now informed, by recent researches carried out by Dr. Kabrhel in the laboratory of Professor Horbaszewski of Prague. In continuing his researches on the chemical basis of tubercular disposition, Dr. Freund made examinations of ashes of the blood, and found that there is a considerable increase of the potassium salts in the blood of tuberculous persons, while the sodium salts and phosphoric acid are reduced in quantity. The ash of normal blood contains, according to the researches of Jarisch, 25·31 to 26·62 per cent. of potash, 23·7 to 26·13 per cent. of soda, and 8·0 to 8·96 per cent. of anhydride of phosphoric acid; the ash of the blood of tuberculous persons was found by Freund to contain 29·84 to 37·57 per cent. (miliary tuberculosis) of potash, 12·85 to 18·26 per cent. of soda, and 4·3 to 6·79 per cent. of anhydride of phosphoric acid. The urine in these cases, however, showed no increase of potash. On these results Dr. Freund based a series of therapeutical experiments, which are being carried out in the wards of Dr. Langer. The leading idea of these experiments is to withdraw carbonate of potash from the body and to introduce sodium salts. For this purpose, large doses of phosphoric acid and phosphate of potash, soda, and lime, followed by carbonate and bicarbonate of soda and chloride of sodium, are used. Dr. Freund maintains that some of the cases treated in this way improved, especially those affected with chronic tuberculosis.

THE SERVICES.

Surgeon J. J. Lamprey has succeeded Surgeon-Major P. Connolly as Senior Medical Officer in the West Africa Settlements.

INDIA OFFICE.—The Queen has approved of the following promotions, amongst others, made by the Governments in India:—Brigade Surgeon John Charles Morice, of the Bengal Medical Establishment (dated Oct. 24th, 1887), and Brigade Surgeon William Edward Cates, of the Bombay Medical Establishment (dated Sept. 15th, 1887), to be Deputy Surgeons-General. Surgeon-Major Isidore Bernadotte Lyon, of the Bombay Medical Establishment, to be Brigade Surgeon (dated Sept. 15th, 1887). Surgeons Patrick Alexander Weir, Peter Johnston Freyer, M.D., Percy de Haga Haig, John Lewtas, and John O'Neill, M.D., of the Bengal Medical Establishment; Surgeon John Wilkins Clarkson and Surgeon Joseph Parker, M.D., of the Bombay Medical Establishment, to be Surgeons-Major, all dated Sept. 30th, 1887.

ADMIRALTY.—A good service pension of £100 a year, for medical officers of the Royal Navy, is placed at the disposal of the First Lord by the recent death of Sir W. R. E. Smart.

RIFLE VOLUNTEERS.—4th (Eton College) Volunteer Battalion, the Oxfordshire Light Infantry: Edward Stacy Norris, M.B., to be Acting Surgeon (dated Dec. 10th, 1887).—1st Midlothian (Leith): Surgeon and Honorary Surgeon-Major J. Henderson, M.D., resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the corps on his retirement (dated Dec. 10th, 1887).

Obituary.

SIR WILLIAM R. E. SMART, M.D., K.C.B., K.L.H.,

HONORARY PHYSICIAN TO THE QUEEN.

IN the recent death of Sir William Smart the Naval Medical Service and the profession have to deplore the loss of an eminent member, who was a bright illustration of what may be achieved by well-directed ability, persevering industry, and the capacity of seizing, as they occur, opportunities of distinction. Early in life, under the apprenticeship system then customary, and to which he always referred with respect and gratitude, he began his medical studies with a leading practitioner of his native town, Devonport, continuing them in London at St. Bartholomew's Hospital. He was always, and remained to the close of his life, a diligent student, taking the deepest interest in his profession and in all that concerned its welfare. He qualified in 1839, and after a brief experience of private practice joined the Royal Navy in 1841, and served for nine years as assistant surgeon in the *Cruiser* in China, in the *Sappho* at the Cape of Good Hope and Mozambique, and in the *Trafalgar*, *Hibernia*, and *Queen* on the Channel, Lisbon, and Mediterranean stations. Hitherto Mr. Smart's service had been uneventful, but in 1850, while in the *Queen* flag-ship at Malta, a formidable epidemic of cholera broke out, in combating which his energies had full scope, and his work was so highly appreciated as to lead to his promotion to the rank of Surgeon, his first appointment being to the *Spitfire*. In 1853 he found time to take his Doctor's degree at Aberdeen, and was soon after appointed to H.M.S. *Diamond*, Captain W. Peel (the son of the great Prime Minister). When the Russian war began, and the siege of Sebastopol was determined on, Captain Peel landed with the Naval Brigade, and the ship was converted tem-

porarily into a hospital until huts could be erected on shore for the reception of the sick and wounded of the brigade, who were placed in charge of Dr. Smart. This was the turning point of his career. The admirable efficiency of his arrangements, and the zeal, energy, and humanity he invariably displayed in the duties of the hospital, whither all the worst cases were sent from the front, were soon recognised by the eminent naval officers in command, and on their recommendation he obtained from Lord Raglan the rank and privileges of a first-class Staff Army Surgeon. He also received the Blane Gold Medal for his journal, the war medals, and the decoration of the Legion of Honour. As a further reward of his Crimean service, he was appointed Staff-Surgeon and Storekeeper of the Hospital ship at Hong-Kong. There he had charge of those wounded in the Canton River operations in 1858, and received the thanks of the Admiral, Sir Michael Seymour, and promotion to the rank of Deputy Inspector-General. He now went to Bermuda, and in charge of that hospital and afterwards at Greenwich the next ten years were spent. In 1869 he was advanced to be Inspector-General, and as such held command of Haslar Hospital from 1873 till his retirement in 1877. He was made a C.B. in 1867, and ten years later a K.C.B., having been previously appointed Honorary (Naval) Physician to the Queen. Only a few months ago a good service pension was conferred on him.

This accumulation of honours was fully merited by Sir William Smart for his well-proved administrative ability and his zealous discharge of duty during thirty years' active service. But he was more than a meritorious and successful naval surgeon. He never ceased to keep touch of the profession he loved so well, and of which, except in regard to practice, he continued to be an active member till the end. He joined the College of Physicians in 1860, was a conspicuous member of the British Medical Association, and some time president of its Southern branch, and took a leading part in the Epidemiological Society, as being most congenial to his tastes and former professional work. He became its president in 1874-75, and contributed both before and since several excellent and elaborate papers on the diseases of the climates in which he had served and the epidemics he had encountered. But other fields of literature were also dear to him. His was a familiar figure at the Record Office, the British Museum, and other great libraries of the metropolis, seeking material for his writings and lectures on antiquarian, geographical, and other subjects, in which he employed his learned leisure.

Here, too, mention should be made of the time and earnest anxious labour Sir W. Smart devoted to what was long a burning question of naval administration—viz., the position and emoluments of medical officers. With the late Dr. F. J. Brown of Rochester and other coadjutors, few of whom survive, he adduced evidence and arguments so cogent as in time to overcome the prejudices of the executive and effect the progressive but well-marked improvement that has taken place in the last forty years. For the great share he had in this movement his name deserves to be held in veneration and grateful regard by two generations of his brother officers. His long experience in every sort of vessel in a subordinate capacity had given Sir William an intimate knowledge of the wants and wishes of his younger brethren. "He who wears the shoe can alone tell where it pinches," and one of the happiest consolations of his declining years was the consciousness of having been instrumental in greatly ameliorating their position.

Sir William Smart's nature was eminently sympathetic. Wherever among his relatives and friends there was illness or suffering, he was to be found rendering succour and comfort regardless of his own convenience or repose. In every domestic relation he was exemplary, the most affectionate of kinsmen, and the fastest of friends. He was seen at his best in his family circle and amid his old naval comrades, who could appreciate his genial humour and rich store of anecdote. His great activity of mind and body seemed to betoken longevity. But some time ago chronic, though painless, disease began to enfeeble and emaciate him. He was only five days confined to his house at Harlesden when symptoms of pulmonary and cerebral oppression were manifested, and he died there on Dec. 2nd, having three weeks before completed his seventieth year. On the 6th he was buried in Kingsbury Neasdon churchyard, not far from Willesden. His honoured name will be long remembered with respect, gratitude, and affection.

We have been informed by his son[1] of an interesting incident in the life of Sir William Smart. In the course of duty he had never been under fire, although from indulging his curiosity as a spectator of the siege operations at Sebastopol he had run some risk. But it so happened that in China he was on one occasion accidentally wounded by a pistol bullet. It entered above the wrist, ran up the arm, and lodged between the radius and ulna just below the elbow. He said he could sometimes feel this ball get in between the bones when bending the joint, and cause sudden stoppage of the movement of flexion. With characteristic resolution, Sir William kept this a secret throughout his life, even from his family, because he feared that if known it might injure his prospects of employment as a hospital surgeon. Shortly before his death he expressed a wish that some mention should be made of this wound, the scar of which was visible, in order to show that though a man may have a bullet encysted in his right forearm, he may still be a good operator.

Medical News.

UNIVERSITY OF LONDON.—The following candidates have passed the recent M.B. Examination for Honours:—

MEDICINE.

FIRST CLASS.

Flemming, Percy (Scholarship and Gold Medal), Univ. Coll.
Tubby, Alfred Herbert (Gold Medal), Guy's Hospital.
Eq. Braddon, William Leonard, Guy's Hospital.
Eq. Thane, Edgar Herbert, University College.
Jecks, Cyril William, University College.
Eq. Smith, Hugh, London Hospital.
Brown, Herbert Henry, University College.

SECOND CLASS.

Moynihan, Berkeley Geo. Andrew, Yorkshire College.
Lys, Henry Grabham, London Hospital.
Eq. Deanesly, Edward, B.Sc., University College.
Eq. Thompson, J. Edwin, Owens Coll. and Manchester Roy. Infirm.
Featherstone, W. Baritrop, Queen's College, Birmingham.
Eq. Finley, Fredk. Gault, McGill Univ., London Hosp., and Vienna.
Eq. Rennie, George Edward, B.A. Sydney, University College.
Eq. Stedman, Frederic Osmund, Charing-cross Hospital.

THIRD CLASS.

Eq. Fisher, Theodore, Guy's Hospital.
Eq. Solly, Ernest, St. Thomas's Hospital.
Kelsall, Henry Truman, London Hospital.
Eq. Risdon, William Newt, Guy's Hospital.
Wheaton, Samuel Walton, St. Thomas's Hospital.
Eq. Brook, W. Henry Breffit, St. Bartholomew's Hospital.
Wynter, Walter Essex, Middlesex and St. Barthol. Hospitals.
Wheatley, James, King's College.
Eq. Caldecott, Charles, Guy's Hospital.
Eq. Godfrey, A. E., Northamp. Gen. Infirm. and St. Thomas's Hosp.
Luff, Arthur Pearson, B.Sc., St. Mary's Hospital.
Mumford, A. Alex., Owens Coll. and Manchester Royal Infirm.
Eq. Jordan, Walter Ross, Birmingham Medical School.
Eq. Taylor, Frederick Howard, London Hospital.

OBSTETRIC MEDICINE.

FIRST CLASS.

Thane, Edgar H. (Scholarship and Gold Medal), Univ. Coll.
Jecks, Cyril William (Gold Medal), University College.
Braddon, William Leonard, Guy's Hospital.

SECOND CLASS.

Thompson, J. Edwin, Owens Coll. and Manchester Roy. Infirm.
Flemming, Percy, University College.

THIRD CLASS.

Brown, Herbert Henry, University College.
Wynter, W. Essex, Middlesex and St. Bartholomew's Hospitals.

FORENSIC MEDICINE.

FIRST CLASS.

Braddon, W. Leonard (Scholarship and Gold Medal), Guy's Hosp.
Brook, W. H. Breffit (Gold Medal), St. Bartholomew's Hospital.
Thompson, J. Edwin, Owens Coll. and Manchester Roy. Infirm.
Deanesly, Edward, University College.
Eq. Featherstone, W. Baritrop, Queen's College, Birmingham.
Eq. Fisher, Theodore, Guy's Hospital.

SECOND CLASS.

Wheaton, Samuel Walton, St. Thomas's Hospital.
Luff, Arthur Pearson, St. Mary's Hospital.
Nevins, J. E., Liverpool School of Medicine and Guy's Hospital.
Tubby, Alfred Herbert, Guy's Hospital.

THIRD CLASS.

Tunstall, John Ogle, University College.
Eq. Brown, Herbert Henry, University College.
Eq. Caldecott, Charles, Guy's Hospital.
Jecks, Cyril William, University College.
Taylor, Fredk. Howard, London Hospital.
Colman, W. Stacy, University of Edin. and Univ. College.

[1] W. Herbert Smart, M.B. Camb., now House-Surgeon of the Hants County Hospital, Winchester.

The following candidates have passed the recent M.S. Examination:—

Burghard, Frédéric François, Guy's Hospital.
Price, Alfred Edward, M.D., Guy's Hospital.
Spencer, Walter George, St. Bartholomew's Hospital.
Targett, James Henry, Guy's Hospital.

The following candidates have passed the recent B.S. Examination:—

FIRST DIVISION.

Carless, Albert, King's College.
Clarke, William Frederick, Guy's Hospital.
Flemming, Percy, University College.
Risdon, William Newt, Guy's Hospital.
Roughton, Edmund Wilkinson, M.D., St. Barthol. Hospital.
Routh, Charles Frederic, Guy's Hospital.
Tubby, Alfred Herbert, Guy's Hospital.
Vincent, Herbert Edmund, Guy's Hospital.
Wheatley, James, King's College.
Wynter, Walter Essex, St. Barthol. and Middlesex Hosps.

SECOND DIVISION.

Braddon, William Leonard, Guy's Hospital.
Brook, William Henry Breffit, St. Bartholomew's Hospital.
Brown, Herbert Henry, University College.
Caldecott, Charles, Guy's Hospital.
Gee, Frederick William, University College.
Heatherley, Francis, Guy's Hospital.
Holder, Sydney Ernest, University College.
Jones, Samuel Cromwell, University College.
Kellsall, Henry Truman, London Hospital.
Prall, Samuel Esmond, Guy's Hospital.
Stedman, Frederick Osmund, Charing-cross Hospital.
Sunder, Charles Edward, University College.
Taylor, Frederick Howard, London Hospital.
Wells, George Lee, St. Bartholomew's Hospital.

UNIVERSITY OF DURHAM.—The following candidates satisfied the examiners at the recent Examinations for degrees in Medicine and Surgery, at the College of Medicine, Newcastle-upon-Tyne:—

DOCTOR IN MEDICINE FOR PRACTITIONERS OF FIFTEEN YEARS' STANDING.

Crawford, James, L.K.Q.C.P.I., L.R.C.S.I.
Deane, Robert Edmund, L.R.C.P. Ed., L.S.A.
Jones, David Edgar, L.R.C.P. Ed., F.R.C.S. Ed.
Steele, Russell, L.R.C.P. Ed., M.R.C.S.

DOCTOR IN MEDICINE (ESSAY).

Barker, John, M.B., M.R.C.S., L.S.A.
Cripps, Charles Couper, M.B., M.S., M.R.C.S.
Davidson, Charles Robert, M.B., M.R.C.S.
Harper, Alexander, M.B., M.R.C.S.
Malden, Frank James, M.B., M.R.C.S.
Proud, Frederick, M.B., M.R.C.S.
Robinson, Alfred, M.B., M.R.C.S., L.S.A.
Walker, Francis John, M.B., L.R.C.P., M.R.C.S.

BACHELOR IN MEDICINE (FINAL EXAMINATION).

Raby, Leonard, London Hospital (Second-class Honours).

PASS-LIST.

Andrews, Octavius W., M.R.C.S., St. George's Hospital.
Berwick, Geo., Coll. of Med., Newcastle-on Tyne.
Bowlan, Marcus Marwood, Coll. of Med., Newcastle-on-Tyne.
Brewis, A. S., M.R.C.S., L.S.A., Coll. of Med., Newcastle-on-Tyne.
Davis, Geo. W., L.R.C.P., M.R.C.S., St. Thomas's Hospital.
Dixson, Chas. Fred. Lyne, M.R.C.S., St. Barthol. Hosp.
East, Charles Harry, M.R.C.S., L.S.A., King's College.
Gautby, George, College of Medicine, Newcastle-on-Tyne.
Hubbard, Daniel Lovett, M.R.C.S., L.S.A., King's College.
Jaques, William, College of Medicine, Newcastle-on-Tyne.
Lavies, Harry Brandreth, M.R.C.S., L.S.A., King's College.
Laws, Cuthbert Umfreville, M.R.C.S., Coll. of Med., Newcastle-on-Tyne.
Leech, Joseph W., Coll. of Med., Newcastle-on-Tyne.
Relly, Walter Grant, Middlesex Hospital.
Richardson, Alfred Ernest, M.R.C.S., London Hospital.
Shortt, William Rushton, Coll. of Med., Newcastle-on-Tyne.
Wilson, Joseph Harwood, Owens College.

BACHELOR IN SURGERY.

Bailes, Lewis Lamb, M.B., Coll. of Med., Newcastle on-Tyne.
Berwick, George, College of Medicine, Newcastle-on-Tyne.
Bowlan, Marcus Marwood. Coll. of Med., Newcastle-on-Tyne.
Brewis, A. S., M.R.C.S., L.S.A., Coll. of Med., Newcastle-on-Tyne.
Brodrick, H. H., M.B., M.R.C.S., L.S.A., Liverpool Royal Infir.
Davis, George W., L.R.C.P., M.R.C.S., St. Thomas's Hospital.
East, Charles Harry, M.R.C.S., L.S.A., King's College.
Gautby, George, Coll. of Med., Newcastle-on-Tyne.
Hubbard, Daniel Lovett, M.R.C.S., L.S.A., King's College.
Jaques, William, Coll. of Med., Newcastle-on-Tyne.
Leech, Joseph William, Coll. of Med., Newcastle-on-Tyne.
Lund, Theodor, M.B., Coll. of Med., Newcastle-on-Tyne.
Morton, Thomas, M.B., Coll. of Med., Newcastle-on-Tyne.
Relly, Walter Grant, Middlesex Hospital.
Stokes, John, M.B., M.R.C.S., College of Medicine, Newcastle-on-Tyne and Sheffield School of Medicine.
Wilson, Joseph Harwood, Owens College.

THE late Madame Boucicault, of Paris, has left £700,000 in charity, of which £4000 goes to the Pasteur Institute.

THE Bath Royal United Hospital has recently received under the will of the late Mrs. Maingay of Worthing a legacy of £500.

THE general annual meeting of the subscribers to the Royal Albert Asylum was held at the Chester Town Hall on the 8th inst.

THE FRENCH HOSPITAL.—The proceeds of the concert recently given at the Opera Comique in aid of this hospital in London amounted to 32,000 francs.

THERE were 17,741 fatal cases of cholera in the North-West Provinces of India during September, against 30,700 during the previous month.

THE spectacle of children carrying bottles of boiled drinking water to school with them has been an almost everyday sight in Cincinnati since typhoid fever became prevalent there.

BEQUESTS.—Mr. M. Rinkle has left the following sums to Dublin hospitals:—Mater Misericordiæ, £200; City of Dublin, £200; St. Michael's, £200; Jervis-street, £200; and St. Vincent's, £200.

VACCINATION GRANT.—Mr. A. C. Jones, M.R.C.S., of Oakham, Public Vaccinator of the Empingham district, Oakham Union, has received a Government grant for the efficiency of vaccination in his district.

A WELL-ATTENDED meeting in connexion with the Church of England Burial, Funeral, and Mourning Reform Association was held on the 12th inst. in the Chapter-room, St. Paul's-churchyard, under the presidency of the Bishop Suffragan of Bedford.

NEW WATER SUPPLY FOR SHREWSBURY. — At a meeting of the Shrewsbury Town Council on the 13th inst., it was decided to apply to the Local Government Board for powers to borrow the sum of £25,000 upon the security of the water and other rates, for the purpose of carrying out a new scheme for improving the general water supply of the town.

UNIVERSITY OF CAMBRIDGE.—At Gonville and Caius College the Thruston Prize of the value of £54, given triennially to a member of the College who has published in the course of the preceding three years the best original investigation in physiology, pathology, or practical medicine, has been adjudged to Mr. Charles Scott Sherrington, M.A., M.B., Fellow of the College.

CENTENARIANS.—Mrs. Rachel Prussic, of Spital-fields, celebrated her 106th birthday on the 10th inst. She is stated to be in such good health that she is able to go to synagogue twice on the Sabbath. A coloured man, residing in Texas, is reported to have attained the age of 117 years. The evidence of his age is afforded by a bill of sale from a slave-trader, dated 1850, and certifying that the negro in question was then eighty years old.

THE PARKES MUSEUM.—The National Society for Aid to the Sick and Wounded in War has, through Lord Wantage, made a donation of £60 to the funds of the Parkes Museum of Hygiene. The Dyers' Company have contributed ten guineas. The response to the appeal recently made has been encouraging, but further support is, we learn, greatly needed, and the most desirable form which such support can take is an annual subscription of one guinea, which qualifies for membership.

UNIVERSITY OF OXFORD.—The Warden and Fellows of Wadham College have elected Dr. James Andrew, formerly Fellow, senior physician to St. Bartholomew's Hospital, to an Honorary Fellowship of the College. The diploma of the examination in Preventive Medicine and Public Health has been awarded to Dr. G. A. Buckmaster, M.A., of Magdalen College. The diploma has been granted only once previously since the establishment of the examination.

THE LONDON TEMPERANCE HOSPITAL.—On Thursday, Dec. 8th, a largely attended *conversazione* was held in the gallery of the Royal Society of Painters in Water-Colours, Prince's Hall, Piccadilly, to commemorate the freedom of the hospital from debt owing to a recent donation of £6000 from Mr. J. J. Tustin. Another object was to arrange for the opening of all the wards, which are capable of receiving 120 in-patients. The Duke of Westminster, who is President of the hospital, could not attend, but sent a congratulatory letter with a cheque for £100.

VOLUNTEER MEDICAL STAFF CORPS.—A "Cinderella Dance" is to be given on the 19th inst. by the members of this corps at the Chelsea Town Hall, to which those holding boxes, stalls, and dress-circle tickets for the performance to be given in the afternoon of the same day at Terry's Theatre will have the privilege of admission.

THE FUTURE UNIVERSITY OF LONDON.—On the 12th inst. the course of Monday afternoon lectures at the London Institution was continued by Professor H. Morley, of University College, who gave the first of two lectures dealing with the question of a fitting University for London such as is likely in the future.

AT an inquest held at Wonford, near Exeter, on the 6th inst., on the body of an infant, the jury found a verdict of "Accidental death from an overdose of chlorodyne," and condemned in strong terms the practice of administering chlorodyne to children. The drug was administered by the mother of the infant.

PROTECTION OF THEATRE-GOERS FROM FIRE.—At the ordinary weekly meeting of the Metropolitan Board of Works on the 9th inst., the Parliamentary Committee submitted the draft of the Bill for the further regulation of theatres and music-halls, and of certain other buildings used for public purposes in the metropolis; and recommended that the Bill be deposited as required by the Standing Orders of Parliament, and that the committee be empowered to take all necessary measures for promoting its passage through both Houses of Parliament. It was reported that since the Board had charge of the theatres they had dealt with eighty-one, besides a very large number of music-halls. By this Bill it was proposed that the Board should have the power of inspecting the theatres and music-halls of the metropolis at least once a year; and having already power to make structural alterations, they asked power to see that such alterations were adhered to, and that no obstructions or extra seats should be placed in the theatres without the Board's permission. The Bill also provided for all houses being controlled by the Board where theatrical entertainments and such-like performances were held, as, for instance, "club houses." The recommendation of the committee was approved unanimously.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BOTHAMLEY, R. BROUGHTON, M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator to No. 1 District of the Bromley (Kent) Union.

BROOK, W. H. B., M.B.Lond., M.R.C.S., has been appointed House-Surgeon to the Lincoln County Hospital, vice Johnston, resigned.

CANT, W., L.R.C.P., M.R.C.S., has been appointed Surgeon to the Lincoln County Hospital.

COLLINS, HENRY BEALE, M.R.C.S., L.S.A., Surgeon, R.N., has been elected Resident Medical Officer to the St. George's, Hanover-square, Dispensary, vice Rendell, resigned.

DAVIES, JOHN T. H., M.D., M.R.C.S., formerly Resident Medical Officer to the Denbighshire Infirmary, has been appointed Surgeon to the Leicester Dispensary.

GIBBINGS, ASHLEY, M.R.C.S., L.D.S., has been appointed Professor of Dental Surgery at King's College, and Dental Surgeon to King's College Hospital.

JEFFREE, FRANK, M.B.Dur., M.R.C.S., has been appointed Assistant Medical Officer to the Stockport Infirmary.

JOSEPH, A. HILL, M.R.C.S., has been appointed Assistant House-Physician to the Royal Hospital for Diseases of the Chest, City-road, E.C.

LOWE, SEPTIMUS, M.R.C.S., L.R.C.P. Ed., has been appointed Consulting-Surgeon to the Lincoln County Hospital, on resignation of the office of Surgeon.

MARSHALL, ARTHUR L., B.A., M.B.Cantab., M.R.C.S., L.S.A., has been appointed Resident Medical Officer to the Royal United Hospital, Bath, vice Young, resigned.

OLDHAM, MONTAGUE WILLIAMS, M.R.C.S., L.R.C.P., L.S.A., has been appointed House-Surgeon to the Burton-on-Trent Infirmary, vice A. P. Trinder, M.R.C.S., L.R.C.P., resigned.

THOMSON, THEODORE, M.A., M.B.Lond., L.R.C.S.Ed., has been appointed Medical Officer of Health for the Borough of Sheffield.

WEAVER, JOHN J., M.R.C.S., L.S.A., has been appointed House-Surgeon to the Southport Infirmary, vice H. Grosvenor Shaw, resigned.

WHISTON, P. H., M.R.C.S., L.R.C.P., has been appointed Assistant House-Surgeon to the South Devon and East Cornwall Hospital, Plymouth.

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

ADDENBROOKE'S HOSPITAL, Cambridge. — Resident House-Physician. Salary £85 per annum, with board, lodging, and washing in the hospital.

BIRMINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Board, residence, and washing.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Resident Clinical Assistant.

DORSET COUNTY HOSPITAL, Dorchester.—House-Surgeon and Secretary. Salary as House-Surgeon £70, as Secretary £10 per annum, with board and residence in the hospital.

ESSEX AND COLCHESTER HOSPITAL. — Physician. Salary £200 per annum.

LYMINGTON UNION.—Medical and Vaccination Officer. Salary £85 per annum, with the usual extra medical and vaccination fees.

SCARBOROUGH HOSPITAL AND DISPENSARY. — House-Surgeon. Salary £80 per annum, with board and lodging.

SEAMEN'S HOSPITAL SOCIETY, Greenwich, S.E. (late *Dreadnought*).—House-Physician. Salary £75 per annum, with board, furnished rooms, and attendance.

WIGAN UNION.—Medical Officer and Public Vaccinator. Salary £130 per annum, with the usual allowance for each case of successful vaccination, and such extra fees for the treatment of surgical and midwifery cases as are authorised by the orders of the Poor Law Board.

WORCESTER AMALGAMATED FRIENDLY SOCIETY. — Assistant Medical Officer. Salary £140 per annum (without residence), with a portion of midwifery fees; also £20 per annum for cab hire.

Births, Marriages, and Deaths.

BIRTHS.

BRAND.—On the 4th inst., at Invery, Driffield, East Yorks, the wife of Alex. T. Brand, M.D., C.M.Aber., of a daughter.

BROOKS.—On the 4th inst., at Beaumont-street, Oxford, the wife of W. Tyrrell Brooks, M.B., B.A., of a daughter.

BROWN.—On the 13th inst., at Claremont House, Strood, Kent, the wife of Robert Ross Brown, L.R.C.P., of a son.

HARDWICK.—On the 5th inst., at Purlands, Charing, Kent, the wife of Fredk. S. Hardwick, M.D., of a son.

RENSHAW.—On the 10th inst., at Clarendon-terrace, Stoke, the wife of Bernard Renshaw, Staff Surgeon, Royal Navy, of a son.

MARRIAGES.

HAMMOND—GRUNDY.—On the 22nd ult., at the Cathedral, Port of Spain, Trinidad, Edward Johnston Hammond, M.R.C.S., Government Medical Officer, Savana Grande, to Marian Leigh, third daughter of the late Edmond Grundy, Esq., of Greenhill, near Manchester.

MACNAMARA—WARD.—On the 8th inst., at Christ Church, New Radford, Nottingham, by the Rev. T. C. Ward, assisted by the Rev. H. Ward (brothers of the bride), the Rev. T. Pyper, Vicar, and the Rev. C. O. Miles, Hugh Winckworth Macnamara, Surgeon, Royal Navy, son of G. H. Macnamara, Esq., formerly of Uxbridge, to Charlotte, third daughter of the late William George Ward, Esq., of Newcastle-drive, Nottingham.

WESTBROOK—WELLS.—On the 7th inst., at All Saints' Church, Lewes, Richard Talbot Westbrook, M.R.C.S., to Florence Harriot Anna, only daughter of Charles Aspull Wells, Esq., of Lewes and Preston-park, Brighton, Sussex.

DEATHS.

BURROWS.—On the 12th inst., at Cavendish-square, W., Sir George Burrows, Bart., M.D., F.R.S., Physician in Ordinary to the Queen, Consulting-Physician to St. Bartholomew's Hospital, late President of the Royal College of Physicians, in his 87th year.

COLE.—On the 7th inst., at Lymm, Cheshire, Henry Cole, M.R.C.S., aged 59.

GREENWOOD.—On the 5th inst., at his residence, Two Mile Ash, Horsham, T. Bryan Greenwood, M.R.C.S., L.S.A., formerly of Horselydown, S.E., aged 77.

KERR.—On the 10th inst., at his residence, Croft House, Crawshawbooth, near Manchester, James Kerr, L.S.A.L., aged 76.

PIGGOT.—On the 10th inst., Allen Piggot, M.R.C.S., L.R.C.P., of Beckenham, Kent, eldest son of Jas. A. Piggot, of Beckingham, Essex.

WILDE.—On the 8th inst., at Swineshead, Lincolnshire, after a few days illness, Fredk. Wilde, M.R.C.S., aged 30.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, December 15th, 1887.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Dec. 9	29·41	N.W.	51	47	69	53	39	·25	Cloudy
,, 10	29·89	N.E.	42	41	50	41	40	...	Overcast
,, 11	30·08	N.E.	37	35	...	42	31	...	Overcast
,, 12	30·15	N.E.	34	33	...	50	33	·12	Overcast
,, 13	29·56	S.W.	50	49	...	52	33	·21	Raining
,, 14	29·56	W.	41	39	63	48	37	·04	Cloudy
,, 15	29·30	S.W.	43	42	...	47	40	·29	Cloudy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

CRUELTY TO CHILDREN.

To the Editors of THE LANCET.

SIRS,—Will you kindly permit us to bring before your readers the claims of the work in which we are engaged in the London Society for the Prevention of Cruelty to Children. The following facts speak for themselves.

In our three years' history, since our founding at the Mansion House in July, 1884, we have dealt with 762 more or less cruel people, for the most part by moral influence. In 132 worst cases, many almost incredible, we have had resort to the law, and have obtained 120 convictions. Of the total number of 762 cases, we find that 333 were cases of injuries inflicted by assault, 81 of starvation (some of these of farmed-out babies and children insured), 130 of dangerous neglect, 32 of desertion, 70 of cruel exposure to excite sympathy in the streets, and 116 of other wrongs. Our efforts have not been confined to London, but have extended to many parts of the country. We do not interfere with mere parental indiscretion, but only with deeds of cruelty which render child-life unendurable, twenty-five cases ending with the victims' death. When punishment is inflicted, it is always followed by indirect, but real, supervision.

At this child-season of the year, we feel that our work must appeal very powerfully to all generous hearts. The following ladies will be glad to receive subscriptions:—The Countess of Iddesleigh, 23, Manchester-square; Lady Henderson, 4, Gledhow-gardens; Lady Whittaker Ellis, Bucclench House, Richmond. Also at the office subscriptions will be gratefully received.—We are, Sirs, yours obediently,

R. RUTHVEN PYM, Treasurer,
BENJ. WAUGH, Hon. Sec.

Office of the Society, 7, Harpur-street, Bloomsbury.

Peripatetic.—Hoblyn's Dictionary of Terms used in Medicine and the Collateral Sciences, published by Whittaker & Co., Paternoster-square.

"ROUGH-AND-READY MEDICAMENTS."

To the Editors of THE LANCET.

SIRS,—It may interest Brigade-Surgeon Curran to know that, on the evening before his interesting letter under the above heading appeared in THE LANCET, Dr. Howship Dickinson, at a dinner at Prof. Philipson's at Newcastle-upon-Tyne, related the case described by Sir Astley Cooper with reference to the patient with "bow shins," and told us how the late Mr. Hilton had told him that the patient eventually came under his care suffering from malignant growths of the cicatrices in both legs. This seems worth recording; for besides the curious coincidence of the double mention of the case, it is of special interest in connexion with Mr. Hutchinson's paper on Arsenic Cancer, read on Tuesday, the 6th inst., at the Pathological Society, and reported in your issue of to-day.

I am, Sirs, faithfully yours,

Holly House, Sunderland, Dec. 10th, 1887. JAMES MURPHY.

"TREATMENT OF ECZEMA AND PSORIASIS."

To the Editors of THE LANCET.

SIRS,—As the treatment of the above diseases is at present being discussed in your journal, and as I have successfully treated several hundred cases of both diseases during the past twelve years in the following manner, I beg to forward it to you for publication, should you think it worthy of a place in your journal.

In acute eczema I have found nothing to excel the oxide of zinc ointment as a local application, whilst the serum is still exuding. As this dries, equal parts of zinc ointment with vaseline or lanoline to be kept constantly applied to the diseased surface, forbidding water in any shape or form; and I may say at once that to this do I attribute a very great share of the success of the treatment, the part to be washed, only when absolutely necessary, with milk and warm water in equal parts. To allay the irritation in chronic eczema, from one to seven minims of pure carbolic acid to an ounce of the equal parts of zinc ointment and vaseline; all scales and dirt of any kind to be gently removed with the eye of a large needle (I use a small director). The impetiginous form I treat in the same way, mopping up any discharge with cotton-wool, which is far more successful than by poultice or bathing with warm water. To sum up: Keep the diseased surface dry, and constantly greased with the preparations mentioned; treat the constitution generally; try to get every organ of the body to perform its natural function. Diet plain and fresh, with a liberal allowance of vegetables and fruits; the less alcohol in any shape or form the more rapid the recovery, as also tea and coffee.

Few are the cases of psoriasis that will not yield to arsenic internally and carbolic acid externally, with alkaline baths every other day or twice a week. With regard to the external application, it is best to commence with a strength of from two to five minims to the ounce, and gradually increase till in some cases the strength of the glyc. acid. carbol. (B.P.) has been reached. In only about 1 per cent. has the carbolic acid been found to blacken the skin or in any way to act injuriously, the worst case of abnormal pigmentation being the one I reported in your columns three years ago.

I am, Sirs, yours truly,

Jermyn-street, S.W., December, 1887. W. R. CULLING.

To the Editors of THE LANCET.

SIRS,—Will Dr. Myrtle kindly give the preparation of tar he most approves, and also the strength of the quinine lotion he usually employs? His article and Sir Andrew Clark's recent one on Chlorosis are types of those most welcome to busy practitioners.

I am, Sirs, yours obliged,

Dec. 12th, 1887. CLUB.

M.R.C.S.—There is no inflexible rule. It is better to follow the custom hitherto observed in the district.

Mr. A. C. Morton.—We referred to all papers to which our remarks would justly apply.

Dr. J. D. Malcolm.—The paper is marked for insertion.

DIPHTHERIA DURING PREGNANCY.

To the Editors of THE LANCET.

SIRS,—In an annotation in your last issue I observe an extract from the *Russkaya Meditsina*, in which Dr. Korotkevich mentions that he has only been able to find four cases of diphtheria during pregnancy reported. I was not aware that it was so rare in pregnant women; but as it appears to be so, it may interest your readers to hear of an additional case.

In September last a woman about seven months advanced in pregnancy came to my house to consult me with well-marked diphtheria, the uvula and both tonsils being covered with the characteristic false membrane. She was very feeble. Two days later I was summoned on account of urgent symptoms. As I was engaged with a midwifery case, a friend and neighbour, who saw the woman for me, performed tracheotomy; but the patient died the same evening.

I am, Sirs, yours faithfully,

Bath, Dec. 12th, 1887. W. N. HETGATE.

M. P.—The qualification mentioned does not carry the title of surgeon. Our correspondent should get a surgical qualification.

Dr. Bell Taylor.—Very shortly.

VOLUNTARY BOARDERS IN LUNATIC ASYLUMS.

To the Editors of THE LANCET.

SIRS,—In reply to the question as to voluntary boarders, will you allow me to say that both private asylums and registered hospitals for the insane can accept as voluntary boarders patients who within five years have been under medical certificates; and that registered hospitals, such as Bethlem, can receive as such any patients who voluntarily place themselves under care, provided they are not so insane as to be unable to form a judgment, or are otherwise only fit to be placed under certificates. The Commissioners in Lunacy see such patients on their visits, and advise in many cases whether such cases should be certified or allowed to remain as boarders. In Bethlem we have from ten to fifteen such boarders, and find that they fall into the regulations very well.

I am, Sirs, yours truly,

Bethlem Hospital, London, S.E., Dec. 13th, 1887. GEO. H. SAVAGE.

INTERESTING MIDWIFERY CASE.

To the Editors of THE LANCET.

SIRS,—I read the other day in your issue of Oct. 15th, Mr. Borham's interesting account of a labour in which head, hand, and cord presented, and where he succeeded in delivering a living child. I had never seen a case of a similar kind in practice before, but yesterday, the 7th inst., I met with the following complication of presentation, which is similar to, but, I think, even more curious and rare than, Mr. Borham's case. Mrs. W——, a negress, was being attended in labour with her ninth child by a midwife. The labour had continued for twenty-four hours, during which time the pains had been slight, but regular, and the membranes had been ruptured for twelve hours. At this stage I was sent for hurriedly. I was informed on arrival that fifteen minutes before, while Mrs. W—— was passing urine, the cord had come down, and also that the child was "lying across." I found a loop of cord, about four inches in length, hanging external to the vulva. It was quite cold and pulseless. The mother stated that she had felt no movement of the child since the waters had come away, twelve hours before. On examining, I found the child's right foot presenting alongside the head and between the head and the right acetabulum. The pelvis was capacious, as is generally the case in the negress, and I was able, with great ease and with the introduction into the vagina of only two fingers and the thumb, to turn and deliver a dead male child of fair average size. The cord was not unusually long, but I did not measure it. There was no history of fall or accident in this case.

I am, Sirs, yours truly,

Tobago, W.I., Nov. 8th, 1887. JOHN P. TULLOCH, M.A., M.B.

Mr. Hackett might apply to the Secretary of the Brussels Graduates' Association, The Limes, St. Mark's-road, North Kensington.

Alpha had better apply to the Secretary of the Society which gives the subject its special attention.

A Constant Reader will see by referring to our last issue that we have noticed the matter.

VACCINATION NOTES.

To the Editors of THE LANCET.

SIRS,—It may be of service to the profession to put on record the two following cases.

CASE 1.—J. W. L——, aged about seventeen years, came before me to be examined and vaccinated before appointment as telegraph messenger. He was never vaccinated as an infant, but had had a severe attack of small-pox during the epidemic here in 1881–2, which left him liberally marked. I vaccinated him on Saturday, Nov. 19th, 1887, in four places, all of which I found four days after to have taken well.

CASE 2.—A. B——, aged thirty-four. On Nov. 21st, 1887, I revaccinated this patient, and four days later found two successful takings (I had put on two only). He was never vaccinated as an infant, but in January, 1886, I vaccinated him myself in two places, which took severely, leaving deep marks, with high fever, enlarged axillary glands, &c., necessitating confinement to the house.

In Case 2, I only report a not uncommon instance, but the time between a severe vaccination in January, 1886, and a second successful vaccination in November, 1887, seems short. Case 1, however, seems to open up a field for thought. 1. Was J. W. L. liable before revaccination to another attack of small-pox? 2. Granted, as I believe, that vaccinia prevents variola, does variola prevent vaccinia? 3. But how much of the varicella one sees in children is variola modified by non-efficient vaccinia?

I am, Sirs, yours truly,

Rochdale, Dec. 5th, 1887. WILLIAM STANWELL.

Doubtful.—Not under Clause 16. For registration of foreign degrees under this clause it is necessary that they should have been held prior to the passing of the Act. In the course of time, under other clauses, certain foreign and colonial degrees will be registrable.

Mr. J. G. Leeson.—The Australasian Medical Directory, published by Baillière, Tindall, and Cox, King William-street, Strand, will give the information desired.

A WARNING.

To the Editors of THE LANCET.

SIRS,—Will you kindly grant me space to warn members of the profession against a man who gives the name of Adams, and introduces himself with my name and recommendation to sell various kinds of cloth? He gives a false address—Dalkeith, near Edinburgh. The police have been trying to find him for some time past. As I have heard of him again to-day, I think it well to mention these facts.

I am, Sirs, yours faithfully,

Grafton-street, Piccadilly, Dec. 13th, 1887. DYCE DUCKWORTH.

Mr. William Watson.—We have no means of identifying the "Dr. Clark" mentioned in the report.

Ether.—Mr. Coxeter of University-street will no doubt give the required information.

LONG SURVIVAL OF TRIPLETS.

To the Editors of THE LANCET.

SIRS,—It may interest your readers to learn that I am attending a gentleman, aged thirty-one, whose two sisters, born on the same day that he was, are alive and well. I have never previously heard of triplets all living to any considerable age.—Yours truly,

F. TAYLOR SIMSON, L.R.C.P. Lond.

Lavender-hill, S.W., Dec. 14th, 1887.

EPSOM COLLEGE.

To the Editors of THE LANCET.

SIRS,—The annual report of Epsom College has just been sent to the governors, and I find that it contains certain proposed alterations in the rules and bye-laws which, I suppose, were carried at the annual meeting. If so, I should like to point out that all these alterations are not made in favour of the parents. Why should the parents have to pay for school books which become of no value after their sons have used them? The tendency of the Council is to raise the expense to parents sending their sons to Epsom. The prospectus speaks of £53 10*s.* per annum; but I found that it came to nearly £70 per annum for my son, and with the cost of books added it may come to £75. Then, again, why should a foundation scholar elected by the governors be refused admission on account of his character? Surely, the Council before admitting the boy on the list of eligible candidates might make some inquiry as to his character, so as to prevent the child being thrown back on the widow after all her anxiety and expense in procuring his election. I am well satisfied with the progress my son made at Epsom, and with the attention of the masters; but I do say the Council are forgetting the reasons for which the College was established—viz., to enable medical men to have their sons educated at a reasonable cost.

I am, Sirs, yours obediently,

December, 1887. A MEDICAL PRACTITIONER.

Surgeon.—There is no such thing, strictly speaking, as a legally qualified midwife. Various hospitals give training and certificates in midwifery, as the City of London, Queen Charlotte's and York-road. But there is as yet no legally constituted authority to regulate the education, examination, and qualification of midwives. Meantime, the best thing our correspondent can do for the "trustworthy and intelligent" nurse is to send her to some such institution.

House-Surgeon is obliged to make post-mortem examinations and attend and give evidence at inquests without receiving fee.

IMPOTENCE AND DIABETES.

To the Editors of THE LANCET.

SIRS,—I think the following case is of some interest in respect to the question of impotence and diabetes.

William A——, aged seventy, came under my care in November with a carbuncle on the back, which he had had for three weeks. On testing the urine it was found to contain an abundance of sugar. Symptoms of diabetes—i.e., thirst and the passage of a large quantity of urine—had been noticed for about four months; but it is probable that the diabetes had been present even longer. The patient had been married four times, and the last wife, who is still alive, was recently confined of twins.

I am, Sirs, yours faithfully,

Stroud Hospital, Dec. 6th, 1887. M. C. MOXHAM.

Epsilon.—Art. 156 states that no appointment shall be made under the General Consolidated Order "unless an advertisement giving notice of the consideration of such appointment shall have appeared in some public paper by direction of the guardians at least seven days before the day on which such appointment is made, provided that no advertisement shall be necessary for the appointment of an assistant or temporary substitute."

Dr. James Oliver.—Yes, the shorter paper.

TREATMENT OF TETANUS BY NITRITE OF AMYL; RECOVERY.

To the Editors of THE LANCET.

SIRS,—I was much struck, in a case of traumatic tetanus which I had under treatment this year, by the great relief given by inhalations of nitrite of amyl. The patient was treated with bromide and chloral, with the addition of morphia. After the second day, and when a paroxysm seemed coming on, he used the amyl freely with great relief, usually dropping off to sleep after two or three inhalations.

I am, Sirs, yours faithfully,

South Tottenham, December, 1887. GEO. B. BEACH.

Dr. T. Maccall.—We shall be glad to receive a specimen of the instrument when ready to be issued.

BALLIN'S FUR RESPIRATOR.

To the Editors of THE LANCET.

SIRS,—I beg the favour of your correction of the notice of the above respirator, which appeared in THE LANCET of Dec. 3rd. The leather part of this respirator is perforated with minute holes, so that the air is inhaled easily through the fur; and it is so prepared that it can be washed in cold water without being injured.

I am, Sirs, yours faithfully,

Aldersgate-street, Dec. 12th, 1887. J. S. BALLIN.

CORRIGENDA.—In Mr. Pemberton's letter on the Treatment of Cancer, published last week, for "or contamination of the adjacent glands" read "or contaminating the adjacent glands"; and in Mr. Jessett's letter on the same subject, for "In some cases of cancer of the uterus the patients have expressed themselves as 'free' from pain" read "patients have expressed themselves as *freer* from pain."

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Sansom, London; Mr. E. Owen, London; Dr. Elder, Nottingham; Sir Henry Ponsonby; Dr. W. Macewen, Glasgow; Dr. Ralfe, London; Sir Dyce Duckworth; Dr. Menzies, Venice; Mr. G. P. Atkinson, Pontefract; Dr. Cummins, Cork; Mr. L. Humphry, Cambridge; Messrs. Boulton and Paul, Norwich; Mr. O. B. Shelswell, Mitcham; Dr. Dale, King's Lynn; Dr. Tarsaig, Rome; Mr. Culling, London; Messrs. Rogers and Co., Wigan; Mr. Heygate, Bath; Mr. Abbott, Exeter; Dr. Hunter Mackenzie; Dr. Bernard, Farnborough; Mr. McGill, Leeds; Mr. H. Sainsbury, London; Mr. Mason, Portsmouth; Mr. Leeson; Mr. A. F. Robbins, London; Mr. A. F. Hawkins, Birmingham; Dr. J. K. Kerr, Leytonstone; Dr. Bartlet, Ipswich; Mr. A. C. Morton; Mr. Keeling, Epsom; Surg.-Major Black, London; Mr. Wilkin, London; Mrs. J. H. Stone, London; Dr. J. Murphy, Sunderland; Mr. Rogers; Mr. D. Llewellyn, Southborough; Messrs. Blackwood, Edinburgh; Dr. C. M. Campbell, London; Mr. A. C. Roper, Exeter; Prof. H. V. Carter, Bombay; Dr. Tulloch, Tobago; Dr. A. G. Macdonald; Dr. R. Bell, Glasgow; Mr. C. E. Jennings, London; Mr. W. Watson; Dr. J. K. Love, Glasgow; Mr. Soden, Dublin; Dr. Brand, Yorks; Miss Tickan, London; Mr. Eschwege, London; Mr. Taylor, Hanley; Mr. Giddy, Scarborough; Mr. Bacot, Dorset; M. Hamon, Paris; Mr. St. Dalmas, Leicester; Dr. Carnie, Bradford; Mr. Guest, Melsonbury; Mr. Fuge, Taunton; Mr. Dwelly, Dartford; Dr. Atkins, Toronto; Mr. Heoyer, Vienna; Miss Chreiman, London; Dr. Allwright; Dr. Macdonald, Auchterderran; Mr. Robinson, Coleraine; Dr. Curry; Mrs. Brown, London; Dr. Dixon, Arundel; Mr. Birchall, Liverpool; Mr. Heelas, Nottingham; Dr. Bailey; Mr. Groves, Dorchester; Mr. Lancaster, St. Helens; Dr. Freund, Varna; Mr. Poole; Mr. Parker; Mr. Gibson, Worcester; Mr. McNab; Mr. Beaumont, Bath; Mr. F. T. Simson; Dr. George Harley, London; Nullus; Justice; Volunteer Med. Staff Corps, London; M.P.; Doubtful; A Medical Practitioner; Ether; Club; M.R.C.S., L.S.A.; L. M. D.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Bastian; Mr. Adam, Liverpool; Mr. Newton, Queensland; Dr. Foreman, Virgin Islands, West Indies; Rev. E. Gabriel; Dr. Reid, Canterbury, New Zealand; Mr. Williams; Dr. Morley, Leeds; Mr. Cole; Messrs. Keith and Co.; Mr. Campbell; Mr. Hoggan, Glasgow; Messrs. Christy and Co., London; Mr. Howe; Dr. Kemp; Dr. Thomas, Christchurch, New Zealand; Mr. Parry; Dr. Bennett, Morpeth, N.S.W.; Messrs. Mason and Co., London; Dr. Caddy, Barrow-in-Furness; Mr. Hine, East Yorks; Mr. Robinson; Dr. Mann, Nottingham; Mr. Anderson, Llandudno; Dr. Potter, Cullompton; Dr. Mitchell, London; Miss Brox, Nottingham; Messrs. Stern, London; Dr. Cochrane; Mr. Kirkland, Horsham; Dr. Bower, Bedford; Mr. Ideson, Colne; Mr. Hammond, Cranleigh; Dr. Robertson; Mr. Hawley; Mrs. Cocking; Mr. Tully, Hastings; Mrs. Buxton, Buckhurst-hill; Dr. Gunn; Mr. Heywood, Manchester; Mr. Nicholls; Mr. Hogg, Bedford; Messrs. Roger and Co.; Mr. Fraser; Mr. Beddoes; Mr. Hodgson; Mr. Scrymgeour, Liverpool; Mr. Robinson; Dr. Kerr, Bury; Dr. Meadows; Miss Andrews, Jersey; Mr. Hawley; Medical Practitioner; M.D., St. Leonards; P. W.; Vigilans; H. H. H.; Medicus, Oldham; T., Bath; Victoria Infirmary, Norwich; A. H.; Medicus, Darwen; Assistant; Lady Superintendent, Bath; L.R.C.P.; M.B., Edinburgh; R. A.; M.D., Crew; Ivy; Suaviter; L.; Osteon; A. Z.; M.D., Birmingham; Guest Hospital, Dudley; A. T. H.; Studens; Forceps; Hospital; T. H., Liverpool; Beta.

Croydon Chronicle, Gospel Temperance Banner, Lincoln Gazette, Chester Chronicle, Sheffield Daily Telegraph, London Echo, Leicester Daily Post, The Literary World, &c., have been received.

Medical Diary for the ensuing Week.

Monday, December 19.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Edmund Owen: Two cases of Disease of the Tibia in which the Knee-joint was involved in Acute Suppuration.—Dr. Angel Money: Neuromata, with Reflex Epilepsy.—Dr. Sainsbury: A case of Early Diastolic Murmur.—Mr. Bernard Pitts: Two cases of Psoas Abscess treated by Lumbar Incision.

Tuesday, December 20.

GUY'S HOSPITAL.—Operations, 1.30 P.M. and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. and on Friday at the same hour. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.
PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Bull: Rare Form of Fracture of Lower End of Femur.—Mr. D'Arcy Power: Vertical Fracture of Head of Tibia.—Dr. Ormerod: Partial Perforation of Skull-cap in a case of Cerebral Tumour.—Mr. J. B. Sutton: Effects of Rickets on Lion's Skulls.—Mr. C. J. Symonds: Tubercle in Sheath of Tendon; Excision; Cure.—Prof. Roy and Mr. Adams: Experimental Observations on Certain Forms of Valvular Disease of the Heart. Card specimens:—Dr. Percy Smith: Syphilitic Arteritis from a case of General Paralysis of the Insane.—Mr. Hudson: Cirrhosis of Liver.—Mr. S. Paget: Fibro-sarcoma beneath Pectoralis Major, from a Man aged Seventy.

Wednesday, December 21.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.
CHILDREN'S HOSPITAL, GREAT ORMOND-ST.—Operations, 9 A.M.; Saturday, same hour.

Thursday, December 22.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Friday, December 23.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, December 24.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

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